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Service Manual

ORDER NO.
ARP3431

PLASMA TELEVISION

PDP-507XC
PDP-507XG
PDP-507XDA

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Model	Type	Power Requirement	Remarks
PDP-507XC	WA5	AC 220V to 240 V	
PDP- 507XG	DLFR	AC 110V to 240 V	
PDP- 507XDA	YP	AC 240 V	

- **This service manual should be used together with the following manual(s):**

Model No.	Order No.	Remarks
PDP-507XD/WYVIXK5	ARP3396	EXPLODE VIEWS, BLOCK DIAGRAM, PCB PARTS LIST etc.

- **For PANEL FACILITIES, refer to the operating instructions.**

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1. QUICK REFERENCE UPON SERVICE VISIT

Quick Reference upon Service Visit ①
Notes, PD/SD diagnosis, and methods for various settings

Notes when visiting for service

1. Notes when disassembling/reassembling

① **Rear case**
When reassembling the rear case, the screws must be tightened in a specific order. Be careful not to tighten them in the wrong order forcibly. For details, see "Rear Case" in "6. DISASSEMBLY" on ARP3396.

② **Attaching screws for the HDMI connector**
When attaching the HDMI connector after replacing the Main Assy, secure the HDMI connector manually with a screwdriver, but not with an electric screwdriver. If you tighten the screws too tightly with an electric screwdriver, the screw heads may be damaged, in which case the screws cannot be untightened/tightened any more.

2. On parts replacement

① **How to discharge before replacing the Assys**
A charge of significant voltage remains in the Plasma Panel even after the power is turned off. Safely discharge the panel before replacement of parts, in either manner indicated below:
A: Let the panel sit at least for 3 minutes after the power is turned off.
B: Turn the Large Signal System off before the power is turned off then, after 1 minute, turn the power off.
For details, see "10.3 Power ON/OFF Function for the Large-Signal System" on ARP3396.

② **On the settings after replacement of the Assys**
Some boards need settings made after replacement of the Assys. For details, see "7. ADJUSTMENT" on ARP3396.

3. On various settings

① **SR+**
After a repair using a PC, be sure to restore the setting for the RS-232C connector to SR+.

② **Setting in Factory mode**
After a Mask indication into the panel is performed, be sure to set the Mask setting to "OFF" then exit Factory mode.

PD/SD

	Item	No. of LEDs flashing	
		Red	Blue
Panel section	Communication with the panel drive IC		Blue 1
	Communication with the module IIC		Blue 2
	DIGTAL-RST2		Blue 3
	Panel high temperature		Blue 4
Main section	Audio		Blue 5
	Communication with the Module microcomputer		Blue 6
	Main 3-wire serial communication		Blue 7
	Main IIC communication		Blue 8
	Communication with the Main microcomputer		Blue 9
	FAN		Blue 10
	Unit high temperature		Blue 11
	Communication with the D-TUNER		Blue 12
	MTB-RST2/RST4		Blue 13
POWER		Red 2	
SCAN		Red 3	
SCN-5V		Red 4	
Y-DRIVE		Red 5	
Y-DCDC		Red 6	
Y-SUS		Red 7	
ADRS		Red 8	
X-DRIVE		Red 9	
X-DCDC		Red 10	
X-SUS		Red 11	
UNKNOWN		Red 15	

Change of settings

How to enter Factory mode using the supplied remote control unit

In the same way as with the remote control unit supplied with the 6th-generation model

How to enter Integrator mode using the supplied remote control unit

① Enter the Standby mode.
② Press [MENU].
③ Press [TV ⏻].

How to switch UART ① (Integrator)

① Enter the Integrator mode.
② Display "OFF" using [➡].
③ Change the communication speed using [⬇], then [➡].

How to switch UART ② (During Standby)

① Enter the Standby mode.
② Hold [VOL +] or [VOL -] pressed for 3 seconds.
③ Hold [SPLIT] pressed for 3 seconds.
④-1 To set to 232C, press [ENTER].
⑤-2 To set to SR+, press [HOME MENU].

Note: If switching is completed successfully, the red LED will flash twice.
Note 1: Use a remote control unit supplied with the 6th-generation models or later.
Note 2: Do not hold a key pressed for more than 5 seconds.

How to locate several items on the Factory menu

{ } : Item on the Factory menu
[ ] : Key on the remote control unit
" " : Screen indication

1. Confirmation of accumulated power-on time and power-on count
Select {INFORMATION} then {HOUR METER}.
(After entering Factory mode, press [⬇] four times.)

2. Confirmation of the Power-down and Shutdown histories

① **Panel system**
PD: Select {PANEL FACTORY} then {POWER DOWN}.
(After entering Factory mode, press [MUTING] once, press [ENTER], then press [⬇] three times.)
SD: Select {PANEL FACTORY} then {SHUT DOWN}.
(After entering Factory mode, press [MUTING] once, press [ENTER], then press [⬇] four times.)

② **Main Assy**
Select {INFORMATION} then {MAIN NG}.
(After entering Factory mode, press [⬇] three times.)

3. How to display the Mask indication

① **Mask indication in the panel side**
1. Select {PANEL FACTORY} then {RASTER MASK SETUP}.
(After entering Factory mode, press [MUTING] once, press [ENTER], then press [⬇] 8 times.)
2. Press [ENTER], then select a Mask indication, using [⬆] or [⬇].

② **Mask (SG screen) indication in the Main Assy (MAIN VDEC)**
1. Select either Input 1, 2 or 4, to which no signal is input (black screen).
2. Select {INITIALIZE} then {SG MODE}. Press [⬅]. (After entering Factory mode, press [MUTING] three times, then press [⬇] once.) Then, the indication at the lower right of the screen changes from "OFF" to "ANA AD YCBCR".
3. You can change Mask patterns by pressing [⬇] to select {SG PATTERN} then using [⬅] or [➡].

Note: When you switch "SG MODE" routes, some displays become monochrome, as they are in Y-signal only mode.

Adjustments and Settings after replacement of the Assys (Procedures in Factory mode)

1. Digital Video Assy: Transfer of backup data
① Select {PANEL FACTORY}, {ETC}, then {BACKUP DATA}. (After entering Factory mode, press [MUTING] once, press [ENTER], press [⬇] seven times, then press [ENTER].)
② Select {TRANSFER}, using [➡], then hold [SET] pressed for at least 5 seconds.
③ After transfer of backup data is completed, {ETC} is automatically selected, and the LED on the front panel returns to normal lighting.

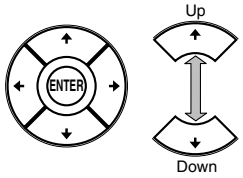
2. MAIN Assy : Switching to SR+ from RS-232C
① Enter the Integrator mode. (The way is described above.)
② As SR+ <=> is [OFF] state, switch to [ON] state by using [➡].
③ Turn the POWER switch of the main unit off by the remote control.

3. POWER SUPPLY Unit: Clearance of the accumulated power-on count and maximum temperature value
① Select {PANEL FACTORY}, {ETC}, then {P COUNT INFO}. (After entering Factory mode, press [MUTING] once, press [ENTER], press [⬇] seven times, press [ENTER], then press [⬇] six times.)
② Press [➡] to select "CLEAR". Hold [SET] pressed for at least 5 seconds.
After clearance is completed, "ETC" is automatically selected. Clear the maximum temperature value (MAX TEMP) in the same manner.

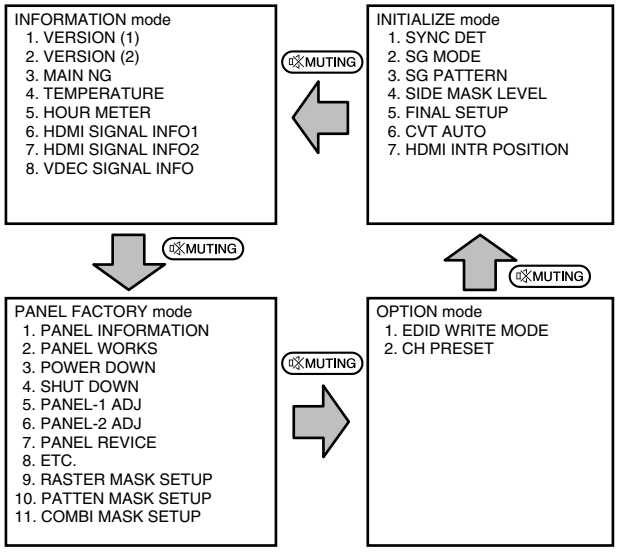
4. Other Assys: Clearance of the maximum temperature value
① Select {PANEL FACTORY}, {ETC}, then {MAX TEMP}. (After entering Factory mode, press [MUTING] once, press [ENTER], press [⬇] seven times, press [ENTER], then press [⬇] seven times.)
② Press [➡] to select "CLEAR". Hold [SET] pressed for at least 5 seconds.
After clearance is completed, "ETC" is automatically selected.

Quick Reference upon Service Visit ②
Mode transition and structure of layers in Service Factory mode

Mode transition in Service Factory mode



- To shift to another mode, press [MUTING].
- To shift to another item in a specific mode, press [⬆] or [⬇].
- To shift to the next nested layer below for an item with a "(+)" indication, press [ENTER]. To return to the next nested layer above, also press [ENTER].



Structure of Layers in Service Factory Mode

INFORMATION mode	
├ 1. VERSION (1)	Flash Versions for PANEL system and MAIN system
├ 2. VERSION (2)	Flash Versions for DTV system
├ 3. MAIN NG	SD histories for MAIN (Going Clear model by SET key)
│ └ 3-1. CLEAR	Select Yes by [➡] key ➡ pushing and hold [SET] key
├ 4. TEMPERATURE	TEMP 1, TEMP2 and FAN mode are displayed
├ 5. HOUR METER	Hour meter and number of Power ON are displayed
│ └ 5-1. CLEAR	Select Yes by [➡] key ➡ pushing and hold [SET] key
├ 6. HDMI SIGNAL INFO 1	For factory use
├ 7. HDMI SIGNAL INFO 2	Signal info of HDMI are displayed (Detail are on SM)
├ 8. VDEC SIGNAL INFO	For factory use
PANEL FACTORY mode	Refer to [PANEL FACTORY MODE]
OPTION	
├ 1. EDID WRITE MODE	For factory use
├ 2. CH PRESET	For production line use
INITIALIZE	
├ 1. SYNC DET (+)	For factory use
2. SG MODE	SG signal from MAIN VDEC (Composite signal is required)
3. SG PATTERN	For factory use
├ 4. SIDE MASK LEVEL(+)	For factory use
│ ├ 4-1. R MASK LEVEL	
│ ├ 4-2. G MASK LEVEL	
│ └ 4-3. B MASK LEVEL	
├ 5. FINAL SETUP	Set to Factory default settings (it should perform after
│ └ 5-1. DATA RESET	replacing a MAIN board)
├ 6. CVT AUTO	For factory use
└ 7. HDMI INTR POSITION(+)	For factory use

Structure of Layers in Panel Factory Mode 1

1. PANEL INFORMATION	Version indication of the panel
2. PANEL WORKS	Indications of the accumulated power-on time, pulse-meter count, and power-on count of the panel
3. POWER DOWN	Indication of the Power-down history
4. SHUT DOWN	Indication of the Shutdown history
5. PANEL-1 ADJ (+)	
├ 1. X-SUS B	Modification not required because these items are basically for factory presetting
├ 2. Y-SUS B	
├ 3. Y-SUSTAIL T1	
├ 4. Y-SUSTAIL T2	
├ 5. Y-SUSTAIL W	
├ 6. XY-RST W1	
├ 7. XY-RST W2	
├ 8. VOL SUS	Settings required after replacement of the panel
├ 9. VOL OFFSET	
├ 10. VOL RST P	
└ 11. SUS FREQ.	For AM noise prevention (Depending on the mode, brightness of the screen changes.)
6. PANEL-2 ADJ (+)	
├ 1. R-HIGH	Parameters for the WB adjustment of the panel, which are required during adjustment after panel replacement
├ 2. G-HIGH	
├ 3 .B-HIGH	
├ 4. R-LOW	
├ 5. G-LOW	
├ 6. B-LOW	
├ 7. ABL	Setting of the power consumption. A setting table is available for each vertical signal.

To "Structure of Layers in Panel Factory Mode 2"

Structure of Layers in Panel Factory Mode 2

7. PANEL REVISE (+)	
├ R-LEVEL	Items for use by engineers
├ G-LEVEL	
├ B-LEVEL	
8. ETC (+)	
├ 1. BACKUP DATA	For transferring backup data (after replacement of the DIGITAL Assy)
├ 2. DIGITAL EEPROM	To clear data of the digital video
├ 3. PD INFO.	For clearance of data for the corresponding items. The clearing method is the same: Select "CLEAR", using [➡], then hold [SET] pressed for at least 5 seconds. After clearance is completed, {ETC} is automatically selected.
├ 4. SD INFO.	
├ 5. HR-MTR INFO.	
├ 6. PM/B1-B5	
├ 7. P COUNT INFO.	
└ 8. MAX TEMP.	
9. RASTER MASK SETUP (+)	
├ 1. MASK OFF	For use while Raster Mask (full mask) is displayed. Use [⬆] or [⬇] to select the type of mask.
├ 2. RST MASK 01	
≈ • • • • •	
└ 25. RST MASK 24	
10. PATTEN MASK SETUP (+)	
├ 1. MASK OFF	For use while Pattern Mask is displayed. Use [⬆] or [⬇] to select the type of mask.
├ 2. PTN MASK 01	
≈ • • • • •	
└ 40. PTN MASK 39	
11. COMBI MASK SETUP (+)	
├ 1. MASK OFF	For use while Combination Mask is displayed. Use [⬆] or [⬇] to select the type of mask.
├ 2. CMB MASK 01	
≈ • • • • •	
└ 11. CMB MASK 10	

2. CONTRAST OF MISCELLANEOUS PARTS

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Screws adjacent to ▼ mark on product are used for disassembly.*
- *Reference Nos. indicate the pages and Nos. in the service manual for the base model.*
- *For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions, apply as you think it appropriate.)*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 Ω → 56 × 10¹ → 561 ..... RD1/4PU 5 6 1 J
47k Ω → 47 × 10³ → 473 ..... RD1/4PU 4 7 3 J
0.5 Ω → R50 ..... RN2H R 5 0 K
1 Ω → 1R0 ..... RS1P 1 R 0 K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω → 562 × 10¹ → 5621 ..... RN1/4PC 5 6 2 1 F

■ CONTRAST TABLE

PDP-507XC/WA5, PDP-507XG/DLFR, PDP-507XDA/YP and PDP-507XA/WYV5 are constructed the same except for the following :

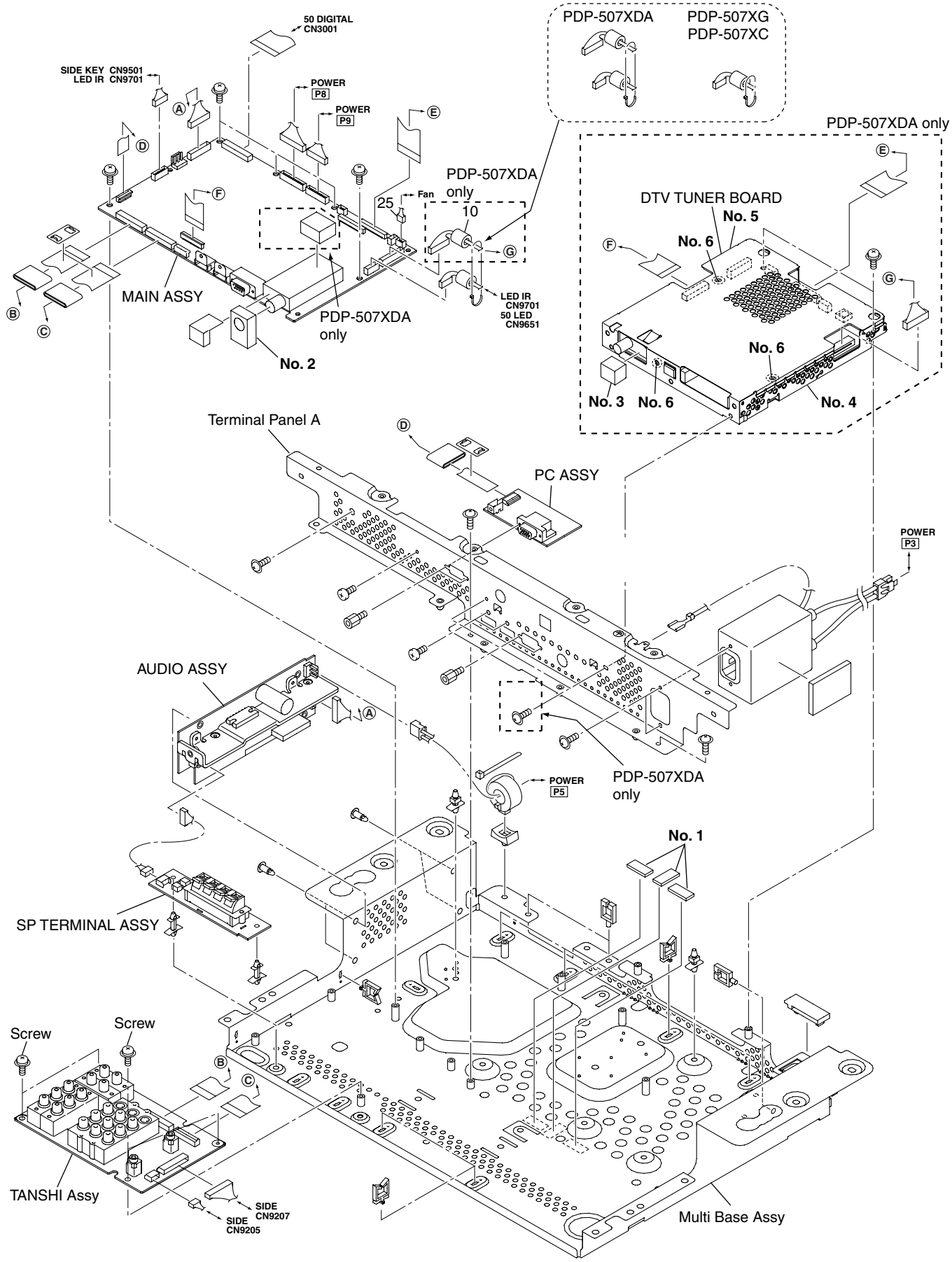
Ref. No.	Mark	Symbol and Description	Part No.				Remarks
			PDP-507XA /WYV5	PDP-507XC /WA5	PDP-507XG /DLFR	PDP-507XDA /YP	
		PCB ASSEMBLIES					
P23- 1		1..MAIN ASSY	AWV2318	AWV2324	AWV2322	AWV2322	
	NSP	1..IO ASSY	AWV2319	AWV2323	AWV2323	AWV2323	
P23- 2		2..TANSHI ASSY	AWW1161	AWW1164	AWW1164	AWW1164	
P13- 2		2..SIDE ASSY	AWW1162	AWW1165	AWW1165	AWW1165	
P23- 3		2..PC ASSY	AWW1163	AWW1166	AWW1166	AWW1166	
		1..DTV TUNER BOARD	Not used	Not used	Not used	AXY1147	
		PACKING SECTION					
P11- 1	⚠	Power Cord	ADG1214	ADG1209	Not used	ADG1245	
	NSP⚠	Power Cord	Not used	Not used	ADG1232	Not used	
	NSP⚠	Power Cord	Not used	Not used	ADG1233	Not used	
	NSP⚠	Power Cord	Not used	Not used	ADG1234	Not used	
	NSP⚠	Power Cord	Not used	Not used	ADG1235	Not used	
	NSP⚠	Power Cord	Not used	Not used	ADG1236	Not used	
	NSP⚠	Power Cord	Not used	Not used	ADG1238	Not used	
	NSP⚠	Power Cord	Not used	Not used	ADG1239	Not used	
	NSP⚠	Power Cord	Not used	Not used	ADG1241	Not used	
	NSP⚠	Power Cord	Not used	Not used	ADG1242	Not used	
	NSP⚠	Power Cord	Not used	Not used	ADG1243	Not used	
	NSP⚠	Power Cord	Not used	Not used	ADG1244	Not used	
	NSP⚠	Power Cord	Not used	Not used	ADG1246	Not used	
P11- 2		Remote Control Unit	AXD1540	AXD1544	AXD1543	AXD1542	
P11- 3		Battery Cover	AZN2626	AZA7424	AZA7424	AZA7424	
P11- 4	NSP	Dry Cell Battery (R06, AA)	VEM1031	VEM1031	AEX1025	VEM1031	
P11- 8		Operating Instructions (Italian, Spanish, Dutch)	ARC1563	Not used	Not used	Not used	
P11- 9		Operating Instructions (English, French, German)	ARE1429	Not used	Not used	Not used	
		Operating Instructions (Chinese)	Not used	ARC1568	Not used	Not used	
		Operating Instructions (English, Spanish, Portuguese, Trad-Chinese)	Not used	Not used	ARE1434	Not used	
		Operating Instructions (English)	Not used	Not used	Not used	ARB1570	
P11-11		Caution Card	ARM1232	ARM1302	ARM1232	ARM1232	
P11-13	NSP	Warranty Card	ARY1114	ARY1161	Not used	ARY1192	
P11-16		Vinyl Bag	AHG1340	AHG1340	Not used	Not used	
P11-21		Power Cord Lid	AHC1085	Not used	AHC1085	Not used	
		Caution Card	ARM1329	ARM1332	ARM1329	ARM1329	
P11-23		Upper Carton	AHD3522	AHD3527	AHD3525	AHD3526	
		Filter	Not used	Not used	Not used	CTX1054	Accessories

Ref. No.	Mark	Symbol and Description	Part No.				Remarks
			PDP-507XA /WYV5	PDP-507XC /WA5	PDP-507XG /DLFR	PDP-507XDA /YP	
		REAR SECTION					
P13-17	NSP	Name Label	AAL2814	AAL2818	AAL2816	AAL2817	
P13-19		Bolt Caution Label	AAX3117	AAX3366	AAX3117	AAX3117	
P13-22		Terminal Label A	AAX3332	AAX3384	AAX3386	AAX3345	
P13-23		Terminal Label C	AAX3339	AAX3336	AAX3336	AAX3336	
P13-24		Terminal Label B50	AAX3418	AAX3422	AAX3421	AAX3421	
P13-25		Terminal Panel B (50E)	ANC2410	ANC2411	ANC2411	ANC2411	
		FRONT SECTION					
P15- 3		Front Case Assy	AMB2946	AMB2946	AMB2946	AMB2958	
		MULTI BASE SECTION					
P23-15		Flexible Cable (J214)	Not used	Not used	Not used	ADD1450	
P23-16		Flexible Cable (J215)	Not used	Not used	Not used	ADD1451	
P23-24		12P Housing Wire (J126)	Not used	Not used	Not used	ADX3392	
P23-39		Multi Base Assy	ANA2019	ANA2019	ANA2019	ANA1952	
P23-40		Terminal Panel A	ANC2399	ANC2399	ANC2399	Not used	
P23-40		Terminal Panel A (AU)	Not used	Not used	Not used	ANC2416	
P23-42	⚠	Gasket EA	ANK1855	Not used	Not used	Not used	
P23-43	⚠	Gasket ED	Not used	Not used	Not used	ANK1863	
		Gasket GA	Not used	ANK1902	ANC1902	ANC1902	No.1
		Gasket GB	Not used	ANK1903	ANC1903	ANC1903	No.2
	⚠	Gasket AD	Not used	Not used	Not used	ANK1859	No.3
		Bottom Can	Not used	Not used	Not used	XNA1005	No.4
		Top Can	Not used	Not used	Not used	XNG1002	No.5
P23-49		Screw	Not used	Not used	Not used	BBZ30P060FTB	
P23-51		Screw	Not used	Not used	Not used	PMB30P080FNI	for DTV BOARD
		Screw	Not used	Not used	Not used	ABZ30P060FTC	No.6

Notes : ●The numbers in the remarks column correspond to the numbers on the " EXPLODED VIEWS ".
● For PCB ASSEMBLIES, Refer to "CONTRAST OF PCB ASSEMBLIES", "10. SCHEMATIC DIAGRAM" and "11. PCB CONNECTION DIAGRAM" .

■ EXPLODED VIEWS

• EXTERIOR (Multi Base Section)



■ CONTRAST OF PCB ASSEMBLIES

SIDE ASSY

Although AWW1162 and AWW1165 are different in part number, they consist of the same components.

PC ASSY

Although AWW1163 and AWW1166 are different in part number, they consist of the same components.

TANSHI ASSY

AWW1164 and AWW1161 are constructed the same except for the following :

Mark	Symbol and Description	Part No.		Remarks
		AWW1161	AWW1164	
	D 9001	Not used	1SS301	
	D 9012	Not used	UDZS5R1(B)	
	D 9013	1SS301	UDZS5R1(B)	
	D 9015, 9016	UDZS5R1(B)	Not used	
	Q 8801- 8804	HN1A01FU	Not used	
	Q 8805- 8808, 9017- 9020	2SA1586	Not used	
	Q 8809- 8811	UMD2N	Not used	
	Q 8812, 8814, 8821, 8823, 8825- 8829	2SC4116	Not used	
	Q 8832	2SC4116	Not used	
	Q 8813	HN1C01FU	Not used	
	Q 9001	HN1B04FU	HN1A01FU	
	Q 9002	Not used	HN1A01FU	
	Q 9003, 9004	Not used	2SA1586	
	Q 9005	Not used	UMD2N	
	Q 9006	Not used	2SD2114K	
	Q 9007, 9008, 9014	Not used	2SC4116	
	Q 9009, 9011	2SC4116	2SD2114K	
	Q 9010	2SC4116	HN1B04FU	
	Q 9012	HN1A01FU	2SC4116	
	Q 9013	UMD2N	2SC4116	
	Q 9016	2SD2114K	UMD2N	
	C 8801, 8801, 8814, 8816	DCH1201	Not used	
	C 8802	DCH1195	Not used	
	C 8803	CKSSYF104Z16	Not used	
	C 8804, 8805	CCG1205	Not used	
	C 8807	Not used	CKSRYB102K50	
	C 8808- 8809	Not used	CKSRYB105K10	
	C 8810	CCG1205	CKSRYB102K50	
	C 8811	CCG1205	CKSSYB471K50	
	C 8812	DCH1201	CKSSYB471K50	
	C 8813	CKSSYF104Z16	CKSSYB471K50	
	C 8815	DCH1165	Not used	
	C 8817	DCH1201	CKSSYB103K16	
	C 8818	CKSSYF104Z16	CKSSYB103K16	

Mark	Symbol and Description	Part No.		Remarks
		AWW1161	AWW1164	
	C 8819	DHC1165	CKSRYB105K10	
	C 8820, 8821, 9037, 9045, 9046	CCG1205	CKSRYB105K10	
	C 8822, 8823, 9036, 9055- 9058	Not used	CKSRYB105K10	
	C 8825	CKSRYB102K50	CKSRYB105K10	
	C 8826- 8836	CKSSYB102K50	Not used	
	C 8837- 8839	ACH1454	Not used	
	C 8840- 8848, 8850, 8851, 8853- 8858	CKSRYB105K10	Not used	
	C 9001	CKSSYF104Z16	CKSSYB473K16	
	C 9002	CKSSYB103K16	CKSSYB473K16	
	C 9003, 9049	Not used	CKSSYB473K16	
	C 9004	Not used	CKSSYF104Z16	
	C 9006	DHC1165	Not used	
	C 9007	DCH1201	DHC1165	
	C 9008, 9009	CKSSYB104K10	CCG1205	
	C 9010	CKSSYB471K50	CCG1205	
	C 9011	CKSSYB471K50	DCH1201	
	C 9012	CKSSYB471K50	Not used	
	C 9013	CKSSYF104Z16	CKSSYB103K16	
	C 9014	DCH1201	CKSSYB103K16	
	C 9015, 9020	Not used	CKSSYB102K50	
	C 9016, 9018- 9019, 9021, 9024, 9027	Not used	CKSSYB103K16	
	C 9017	CEHVKW470M6R3	CKSSYB102K50	
	C 9022, 9025	CKSRYB105K10	CKSSYB102K50	
	C 9023	CKSSYB102K50	CKSSYB103K16	
	C 9026	CKSRYB102K50	CKSSYB102K50	
	C 9028- 9030	CKSRYB105K10	Not used	
	C 9031	CKSRYB102K50	CKSSYF104Z16	
	C 9032	CKSRYB102K50	CEHVKW470M6R3	
	C 9038	CKSSYB473K16	CKSRYB105K10	
	C 9039, 9040	CKSSYB103K16	CKSRYB105K10	
	C 9043	CKSRYB224K10	CKSRYB105K10	
	C 9044	CKSSYF104Z16	ACH1454	
	C 9047, 9048, 9059	Not used	CKSSYB103K16	
	C 9050, 9051	Not used	DCH1201	
	C 9052, 9053	Not used	DHC1165	
	C 9054	Not used	CKSRYB224K10	
	C 9060, 9061	Not used	CKSSYB104K10	
	F 8801- 8807	Not used	CTF1557	
	F 9001- 9007	CTF1557	Not used	
	R 8801, 8803	RS1/10S151J	RS1/16S75R0F	
	R 8802	RS1/10S151J	RS1/16S75R0F	
	R 8804, 8805,8807, 8809, 8810	RS1/10S151J	Not used	
	R 8806, 8808	RS1/10S121J	Not used	
	R 8822	RS1/16SS392J	RS1/16S75R0F	
	R 8823- 8824	RS1/16SS102J	RS1/16S75R0F	
	R 8839- 8841	RS1/16S75R0F	RS1/16SS0R0J	
	R 8866, 8894, 8898, 8915- 8917, 8922	RS1/16S75R0F	Not used	
	R 9006- 9008, 9012, 9013	RS1/16SS101J	RS1/16S75R0F	
	R 9014, 9021- 9023	Not used	RS1/16S75R0F	
	R 9037, 9038	RS1/16S75R0F	RS1/16SS181J	
	R 9040	RS1/16S75R0F	RS1/16SS103J	
	R 9046, 9047	RS1/16S75R0F	RS1/16SS222J	
	R 9048	RS1/16S75R0F	RS1/16S821J	
	R 9072	RS1/16SS472J	RS1/16S75R0F	
	R 9074, 9075	RS1/16SS152J	RS1/16S75R0F	

AWW1164 and AWW1161 are constructed the same except for the following :

Mark	Symbol and Description	Part No.		Remarks
		AWW1161	AWW1164	
	CN 8801 (50P CONNECTOR PBF)	Not used	AKM1349	
	CN 8802 (50P CONNECTOR PBF)	AKM1349	Not used	
	JA 8801 (RGB CONNECTOR)	AKP1295	VKN1449	
	JA 8801 (RGB CONNECTOR)	AKP1295	Not used	
	JA 8803	AKP1295	AKN1081	
	JA 8804, 8805 (3P PIN JACK)	Not used	AKB1332	
	JA 9001 (3P PIN JACK)	AKB1332	AKB1339	
	JA 9002 (MINI JACK)	VKN1449	AKB1331	
	JA 9003 (9P 3S PIN JACK)	Not used	AKB1334	
	JA 9004 (4POLE MINI JACK)	AKN1081	Not used	
	JA 9006 (3P PIN JACK)	AKB1340	Not used	

MAIN ASSY

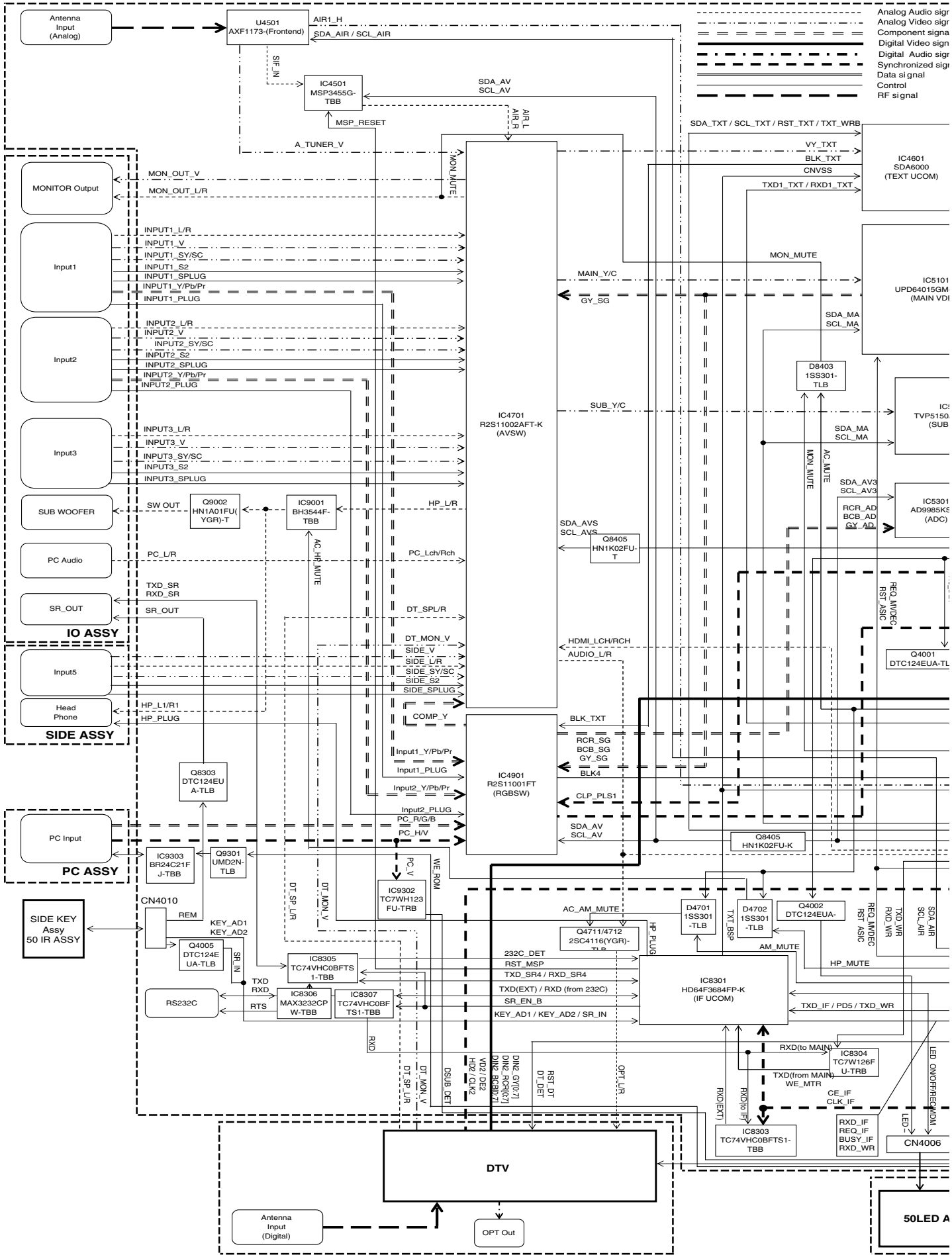
AWV2324, AWV2322 and AWV2318 are constructed the same except for the following :

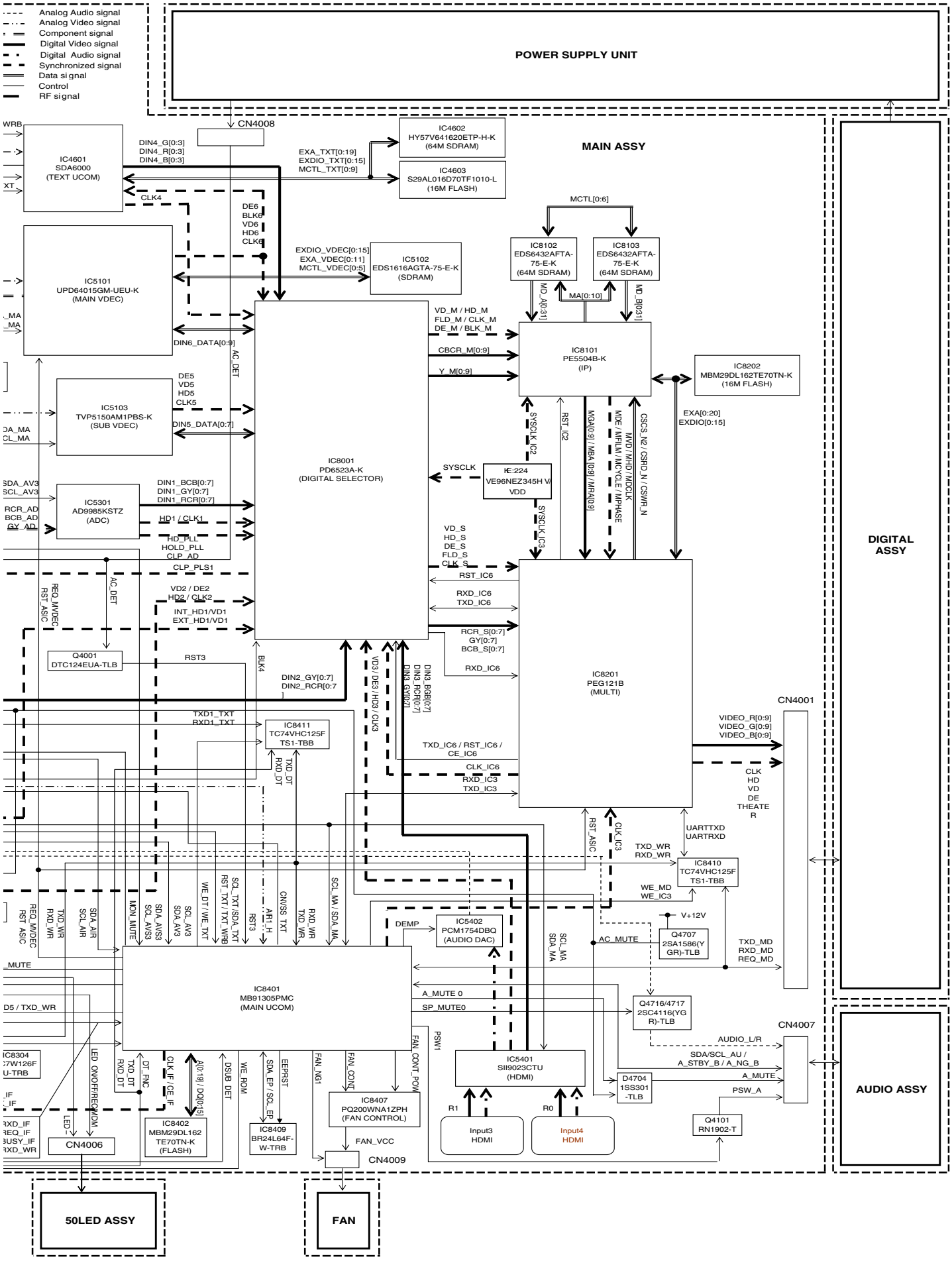
Mark	Symbol and Description	Part No.			Remarks
		AWV2318	AWV2324	AWV2322	
	[BOARD IF BLOCK]				
	R 4027, 4028	RS1/16SS473J	RS1/16SS0R0J	RS1/16SS0R0J	
	R 4032, 4033, 4056	RS1/16SS0R0J	Not used	Not used	
	R 4034	RS1/16SS0R0J	RS1/16SS473J	RS1/16SS473J	
	R 4058	Not used	Not used	RS1/16SS0R0J	
	R 4059	Not used	RS1/16SS0R0J	Not used	
	[REG 0 BLOCK]				
	R 4199	Not used	RS1/16S0R0J	RS1/16S0R0J	
	F 4102	VTF1080	Not used	Not used	
	[ATUNER BLOCK]				
⚠	U 4501 (FRONT END)	AXF1172	AXF1175	AXF1175	
	IC 4501	MSP3417G	MSP3455G	MSP3455G	
	Q 4501	DTC124EUA	Not used	Not used	
	C 4520	CEHVKW101M6R3	Not used	Not used	
	C 4522	Not used	ACH1429	ACH1429	
	[AV SW BLOCK]				
	IC 4703	PCM1803DB	Not used	Not used	
	IC 4704	NJU26901E2	Not used	Not used	
	IC 4705	PCM1754DBQ	Not used	Not used	
	IC 4706	NJM12904V	Not used	Not used	
	Q 4718	DTA124EUA	Not used	Not used	
	Q 4719, 4720	2SC4116	Not used	Not used	
	Q 4722, 4723	HN1B04FU	Not used	Not used	
	C 4701, 4761, 4763, 4764, 4766	CKSSYF104Z16	Not used	Not used	
	C 4702, 4708, 4736, 4742, 4759, 4760	CKSRYB105K10	Not used	Not used	
	C 4709, 4738, 4743	Not used	CKSRYB105K10	CKSRYB105K10	
	C 4722, 4762, 4765, 4769- 4771	DCH1201	Not used	Not used	
	C 4767, 4768, 8814, 8816	DCH1165	Not used	Not used	
	C 4772- 4774	CKSSYF104Z16	Not used	Not used	
	C 4775, 4776	CKSSYF104Z16	Not used	Not used	
	C 4777, 4779,	CKSSYB152K50	Not used	Not used	
	C 4778	CCSSCH221J50	Not used	Not used	
	C 4780- 4783	CKSRYB105K10	Not used	Not used	
	C 4784, 4785	CKSSCH331J50	Not used	Not used	
	X 4701 (CRYSTAL)	ASS1204	Not used	Not used	

Mark	Symbol and Description	Part No.			Remarks
		AWV2318	AWV2324	AWV2322	
	R 4815- 4817	RS1/10S0R0J	Not uesd	Not used	
	R 4849	RS1/16S472J	Not uesd	Not uesd	
	R 4851, 4852	RS1/16S182J	Not uesd	Not uesd	
	R 4853	RS1/16S222J	Not uesd	Not uesd	
	R 4860, 4861,4863, 4865	RS1/16S102J	Not uesd	Not uesd	
	R 4866	RAB4CQ470J	Not uesd	Not uesd	
	[RGB SW BLOCK]				
	D 4901- 4903	UDZS4R7(B)	Not uesd	Not uesd	
	Q 4901- 4903	2SA1586	Not uesd	Not uesd	
	Q 4904, 4906	HN1B04FU	Not uesd	Not uesd	
	C 4911, 4935	CKSRYB474K10	Not uesd	Not uesd	
	C 4916, 4929- 4931	CKSSYF104Z16	Not uesd	Not uesd	
	C 4935	CKSRYB105K10	Not uesd	Not uesd	
	R 4913- 4918	RS1/16SS3301F	Not uesd	Not uesd	
	R 4921, 4928, 4932	RS1/16SS75R0F	Not uesd	Not uesd	
	R 4926, 4930	RS1/16SS5600F	Not uesd	Not uesd	
	[VDEC BLOCK]				
	C 5110- C5112	Not used	CKSSYB104K10	CKSSYB104K10	
	C 5136, 5140, 5150	CKSSYB103K16	Not used	Not used	
	R 5111	Not used	RS1/16SS103J	RS1/16SS103J	
	[IF UCOM BLOCK]				
	IC 8308	TC74VHC00FTS1	Not used	Not used	
	Q 8306, 8308	DTC124EUA	Not used	Not used	
	Q 8307, 8312	2SA1586	Not used	Not used	
	Q 8309, 8313	2SC4116	Not used	Not used	
	Q 8310, 8314	N1C01FU	Not used	Not used	
	D 8304, 8305	1SS355	Not used	Not used	
	R 8368, 8371, 8374, 8378, 8381	RS1/16SS103J	Not used	Not used	
	R 8350, 8384, 8385	Not used	RS1/16SS103J	RS1/16SS103J	
	[MAIN UCOM BLOCK]				
	D 8404, 8405	1SS301	Not used	Not used	
	R 8476	RS1/16SS103J	Not used	RS1/16SS103J	
	R 8477	Not used	RS1/16SS103J	Not used	
	[DSEL BLOCK]				
	R 8017	RS1/16SS101J	Not used	Not used	

3. BLOCK DIAGRAM

3.1 SIGNAL BLOCK DIAGRAM



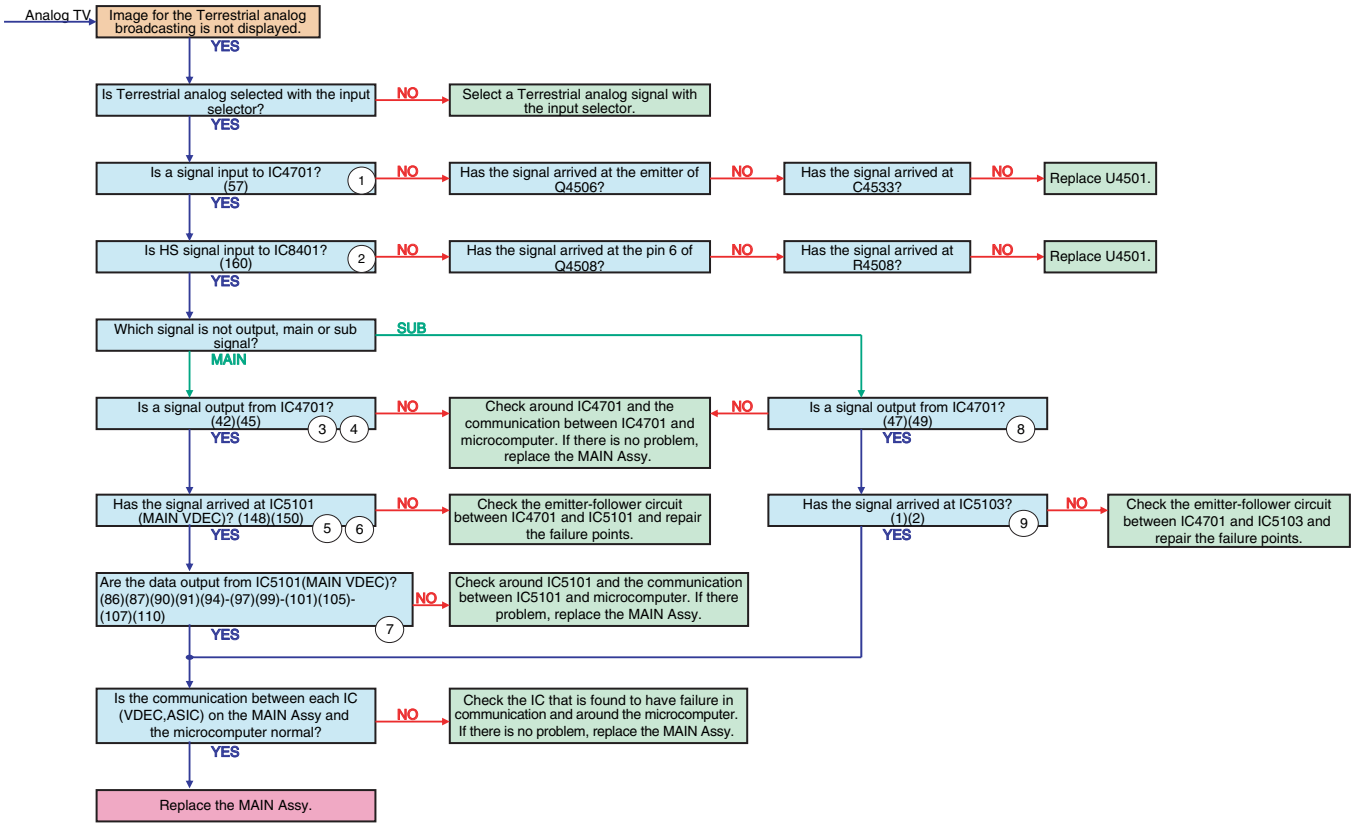

Analog Audio signal
Analog Video signal
Component signal
Digital Video signal
Digital Audio signal
Synchronized signal
Data signal
Control
RF signal
POWER SUPPLY UNIT
MAIN ASSY
CN4008
IC4601
SDA6000
(TEXT UCOM)
IC4602
HY57V641620ETP-H-K
(64M SDRAM)
IC4603
S29AL016D70TF1010-L
(16M FLASH)
IC5101
UPD64015GM-UEU-K
(MAIN VDEC)
IC5102
EDS1616AGTA-75-E-K
(SDRAM)
IC8102
EDS6432AFTA-75-E-K
(64M SDRAM)
IC8103
EDS6432AFTA-75-E-K
(64M SDRAM)
IC8101
PE5504B-K
(IP)
IC8202
MBM29DL162TE70TN-K
(16M FLASH)
IC5103
TVP5150AM1PBS-K
(SUB VDEC)
IC8001
PD6523A-K
(DIGITAL SELECTOR)
IC5301
AD9985KSTZ
(ADC)
IC8201
PEG121B
(MULTI)
IC8411
TC74VHC125F
TS1-TBB
IC8410
TC74VHC125F
TS1-TBB
IC8401
MB91305PMC
(MAIN UCOM)
IC5402
PCM1754DBQ
(AUDIO DAC)
IC5401
SII9023CTU
(HDMI)
IC8407
PQ200WNA1ZPH
(FAN CONTROL)
IC8409
BR24L64F-W-TRB
IC8402
MBM29DL162
TE70TN-K
(FLASH)
Q4001
DTC124EUA-TLB
Q4707
2SA1586(Y GR)-TLB
Q4716/4717
2SC4116(YG R)-TLB
D4704
1SS301-TLB
Q4101
RN1902-T
CN4001
CN4007
CN4006
CN4009
DIGITAL ASSY
AUDIO ASSY
50LED ASSY
FAN
Input3
HDMI
Input4
HDMI
DIN4_G[0:3]
DIN4_R[0:3]
DIN4_B[0:3]
EXA_TXT[0:19]
EXDIO_TXT[0:15]
MCTL_TXT[0:9]
MCTL[0:6]
EXDIO_VDEC[0:15]
EXA_VDEC[0:11]
MCTL_VDEC[0:5]
MD_A[0:31]
MA[0:10]
MD_B[0:31]
VD_M / HD_M
FLD_M / CLK_M
DE_M / BLK_M
CBCR_M[0:9]
Y_M[0:9]
DIN6_DATA[0:9]
DIN5_DATA[0:7]
DIN1_BCB[0:7]
DIN1_GY[0:7]
DIN1_RCR[0:7]
HD1 / CLK1
VD_S
HD_S
DE_S
FLD_S
CLK_S
RST_IC6
RXD_IC6
TXD_IC6
RCR_S[0:7]
GY[0:7]
BCB_S[0:7]
VD2 / DE2
HD2 / CLK2
INT_HD1/VD1
EXT_HD1/VD1
CLP_PLS1
HD_PLL
HOLD_PLL
CLP_AD
SYSCLK
SYSCLK_IC2
SYSCLK_IC3
RST_IC2
EXA[0:20]
EXDIO[0:15]
VIDEO_R[0:9]
VIDEO_G[0:9]
VIDEO_B[0:9]
CLK
HD
VD
DE
THEATER
TXD_IC6 / RST_IC6 / CE_IC6
CLK_IC6
RXD_IC3
TXD_IC3
UARTTXD
UARTRXD
TXD_WR
RXD_WR
WE_MD
WE_IC3
V+12V
AC_MUTE
TXD_MD
RXD_MD
REQ_MD
DEMP
A_MUTE 0
SP_MUTE0
AUDIO_L/R
SDA/SCL_AU /
A_STBY_B / A_NG_B
A_MUTE
PSW_A
R1
R0
PSW1
FAN_VCC
FAN_NG1
FAN_CONT
FAN_CONT_POW
DSUB_DET
WE_ROM
EEPRST
LED_ONOFF/REQ_MDM
DT_RNC
CLK_IF / CE_IF
A[0:19] / DQ[0:15]
DIN2_GY[0:7]
DIN2_RCR[0:7]
DIN3_BGB[0:7]
DIN3_RCR[0:7]
DIN3_GY[0:7]
VD3 / DE3 / HD3 / CLK3
TXD1_TXT
RXD1_TXT
TXD_DT
RXD_DT
RST3
BLK4
AC_DET
REQ_MVDEC
RST_ASIC
SCL_AV3
SDA_AV3
SCL_AIR
SDA_AIR
MON_MUTE
WE_DT / WE_TXT
SCL_TXT / SDA_TXT
RST_TXT / TXT_WRB
AIR1_H
CNVSS_TXT
SCL_MA / SDA_MA
MCTL[0:6]
MGA[0:9] / MBA[0:9] / MRA[0:9]
MDE / MFILM / MCYCLE / MPHASE
MVD / MHD / MDCLK
CSCS_N2 / CSRD_N / CSWR_N

4. DIAGNOSIS

4.1 TROUBLE SHOOTING

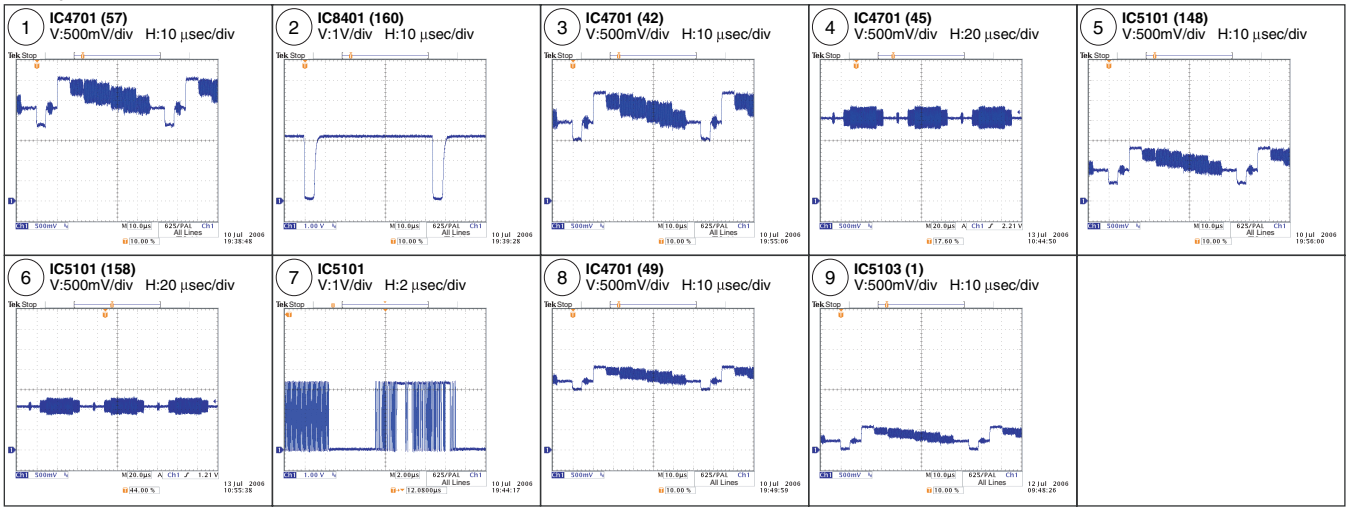
4.1.1FLOWCHART OF FAILURE ANALYSIS FORTHE VIDEO SYSTEM

Flowchart of Failure Analysis for The Video-system Assy

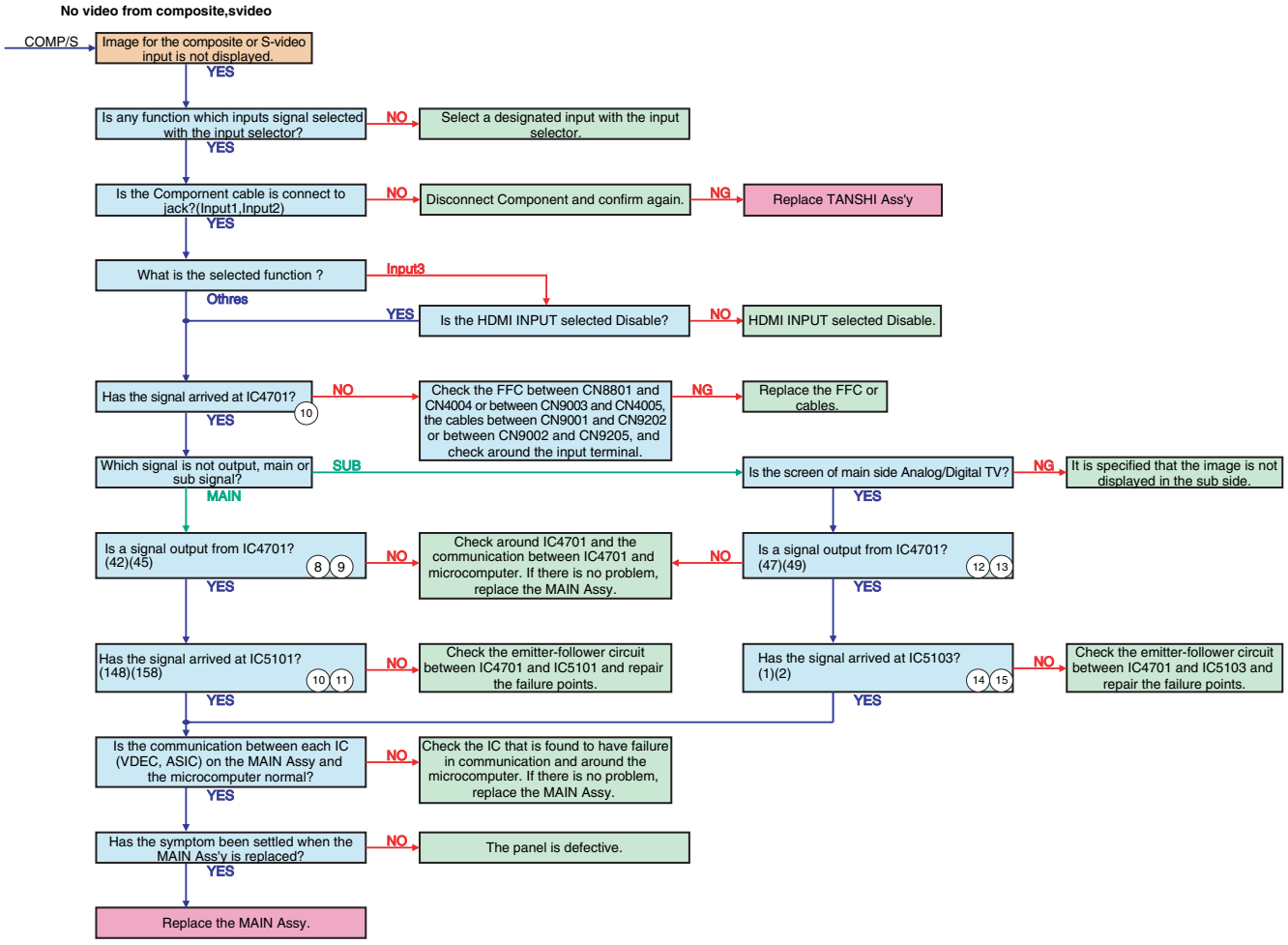

Analog TV
Image for the Terrestrial analog broadcasting is not displayed.
YES
Is Terrestrial analog selected with the input selector?
NO
Select a Terrestrial analog signal with the input selector.
YES
Is a signal input to IC4701? (57)
1
NO
Has the signal arrived at the emitter of Q4506?
NO
Has the signal arrived at C4533?
NO
Replace U4501.
YES
Is HS signal input to IC8401? (160)
2
NO
Has the signal arrived at the pin 6 of Q4508?
NO
Has the signal arrived at R4508?
NO
Replace U4501.
YES
Which signal is not output, main or sub signal?
SUB
MAIN
Is a signal output from IC4701? (42)(45)
3
4
NO
Check around IC4701 and the communication between IC4701 and microcomputer. If there is no problem, replace the MAIN Assy.
NO
Is a signal output from IC4701? (47)(49)
8
YES
YES
Has the signal arrived at IC5101 (MAIN VDEC)? (148)(150)
5
6
NO
Check the emitter-follower circuit between IC4701 and IC5101 and repair the failure points.
YES
Has the signal arrived at IC5103? (1)(2)
9
NO
Check the emitter-follower circuit between IC4701 and IC5103 and repair the failure points.
YES
Are the data output from IC5101(MAIN VDEC)? (86)(87)(90)(91)(94)-(97)(99)-(101)(105)-(107)(110)
7
NO
Check around IC5101 and the communication between IC5101 and microcomputer. If there problem, replace the MAIN Assy.
YES
Is the communication between each IC (VDEC,ASIC) on the MAIN Assy and the microcomputer normal?
NO
Check the IC that is found to have failure in communication and around the microcomputer. If there is no problem, replace the MAIN Assy.
YES
Replace the MAIN Assy.

- **Waveforms**

Analog tuner PAL Color Bar input

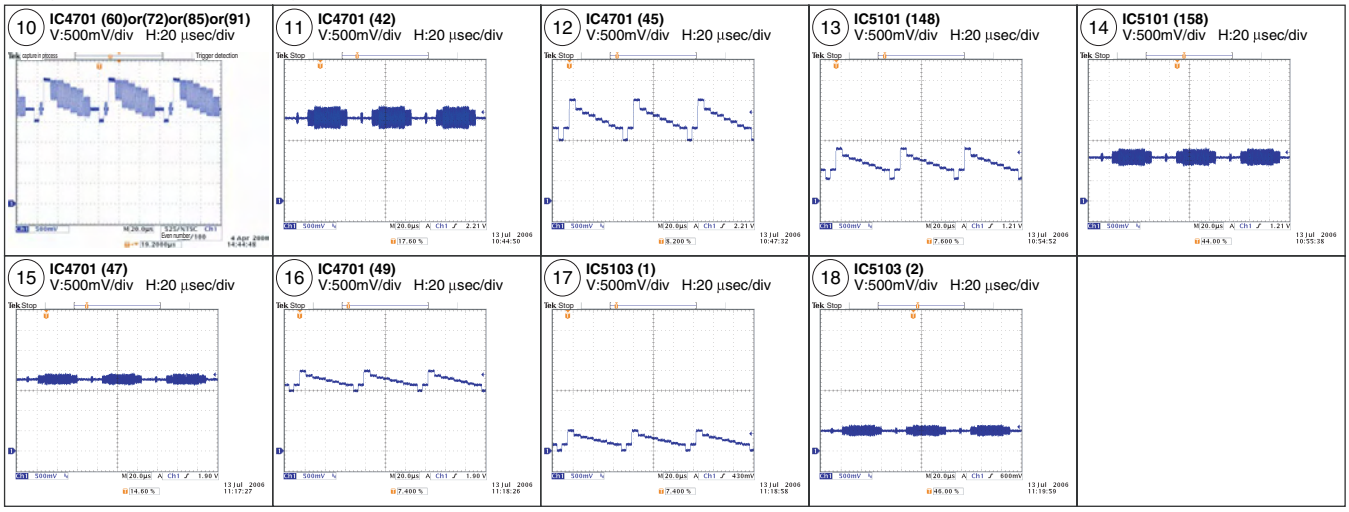

1 IC4701 (57) V:500mV/div H:10 µsec/div
2 IC8401 (160) V:1V/div H:10 µsec/div
3 IC4701 (42) V:500mV/div H:10 µsec/div
4 IC4701 (45) V:500mV/div H:20 µsec/div
5 IC5101 (148) V:500mV/div H:10 µsec/div
6 IC5101 (158) V:500mV/div H:20 µsec/div
7 IC5101 V:1V/div H:2 µsec/div
8 IC4701 (49) V:500mV/div H:10 µsec/div
9 IC5103 (1) V:500mV/div H:10 µsec/div

Flowchart of Failure Analysis for The Video-system Assy


No video from composite,svideo
COMP/S
Image for the composite or S-video input is not displayed.
YES
Is any function which inputs signal selected with the input selector?
NO
Select a designated input with the input selector.
YES
Is the Compornent cable is connect to jack?(Input1,Input2)
NO
Disconnect Component and confirm again.
NG
Replace TANSHI Ass'y
YES
What is the selected function ?
Input3
Othres
YES
Is the HDMI INPUT selected Disable?
NO
HDMI INPUT selected Disable.
Has the signal arrived at IC4701? 10
NO
Check the FFC between CN8801 and CN4004 or between CN9003 and CN4005, the cables between CN9001 and CN9202 or between CN9002 and CN9205, and check around the input terminal.
NG
Replace the FFC or cables.
YES
Which signal is not output, main or sub signal?
SUB
Is the screen of main side Analog/Digital TV?
NG
It is specified that the image is not displayed in the sub side.
YES
MAIN
Is a signal output from IC4701? (42)(45) 8 9
NO
Check around IC4701 and the communication between IC4701 and microcomputer. If there is no problem, replace the MAIN Assy.
NO
Is a signal output from IC4701? (47)(49) 12 13
YES
YES
Has the signal arrived at IC5101? (148)(158) 10 11
NO
Check the emitter-follower circuit between IC4701 and IC5101 and repair the failure points.
Has the signal arrived at IC5103? (1)(2) 14 15
NO
Check the emitter-follower circuit between IC4701 and IC5103 and repair the failure points.
YES
YES
Is the communication between each IC (VDEC, ASIC) on the MAIN Assy and the microcomputer normal?
NO
Check the IC that is found to have failure in communication and around the microcomputer. If there is no problem, replace the MAIN Assy.
YES
Has the symptom been settled when the MAIN Ass'y is replaced?
NO
The panel is defective.
YES
Replace the MAIN Assy.

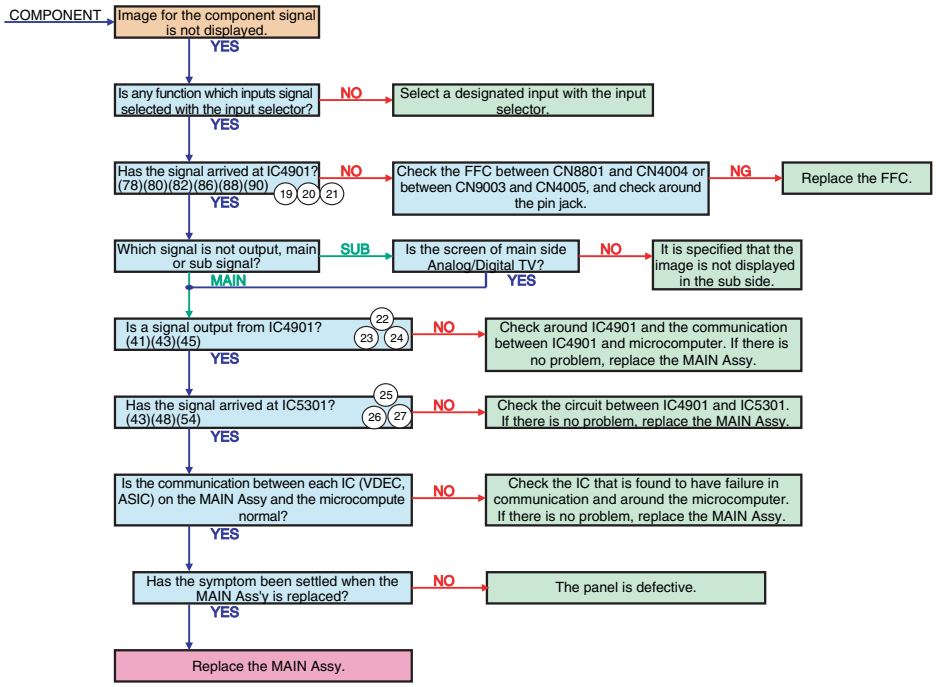
• Waveforms

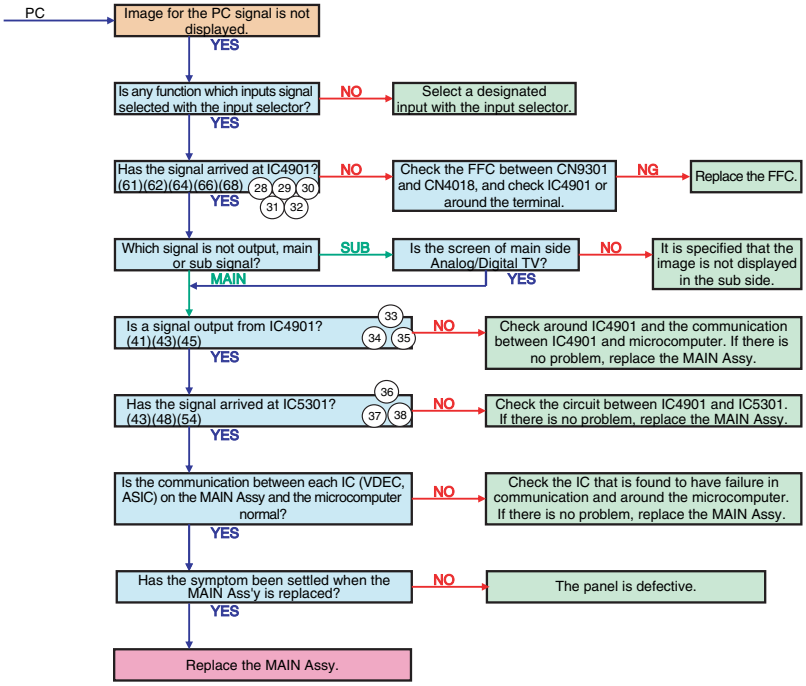
Composite or S terminal PAL Color Bar input


10 IC4701 (60)or(72)or(85)or(91) V:500mV/div H:20 µsec/div
11 IC4701 (42) V:500mV/div H:20 µsec/div
12 IC4701 (45) V:500mV/div H:20 µsec/div
13 IC5101 (148) V:500mV/div H:20 µsec/div
14 IC5101 (158) V:500mV/div H:20 µsec/div
15 IC4701 (47) V:500mV/div H:20 µsec/div
16 IC4701 (49) V:500mV/div H:20 µsec/div
17 IC5103 (1) V:500mV/div H:20 µsec/div
18 IC5103 (2) V:500mV/div H:20 µsec/div

Flowchart of Failure Analysis for The Video-system Assy

No video from component or pc

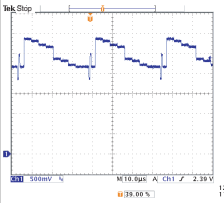

COMPONENT
Image for the component signal is not displayed.
YES
Is any function which inputs signal selected with the input selector?
NO
Select a designated input with the input selector.
YES
Has the signal arrived at IC4901? (78)(80)(82)(86)(88)(90)
19 20 21
NO
Check the FFC between CN8801 and CN4004 or between CN9003 and CN4005, and check around the pin jack.
NG
Replace the FFC.
YES
Which signal is not output, main or sub signal?
SUB
Is the screen of main side Analog/Digital TV?
NO
It is specified that the image is not displayed in the sub side.
MAIN
YES
Is a signal output from IC4901? (41)(43)(45)
22 23 24
NO
Check around IC4901 and the communication between IC4901 and microcomputer. If there is no problem, replace the MAIN Assy.
YES
Has the signal arrived at IC5301? (43)(48)(54)
25 26 27
NO
Check the circuit between IC4901 and IC5301. If there is no problem, replace the MAIN Assy.
YES
Is the communication between each IC (VDEC, ASIC) on the MAIN Assy and the microcompute normal?
NO
Check the IC that is found to have failure in communication and around the microcomputer. If there is no problem, replace the MAIN Assy.
YES
Has the symptom been settled when the MAIN Ass'y is replaced?
NO
The panel is defective.
YES
Replace the MAIN Assy.


PC
Image for the PC signal is not displayed.
YES
Is any function which inputs signal selected with the input selector?
NO
Select a designated input with the input selector.
YES
Has the signal arrived at IC4901? (61)(62)(64)(66)(68)
28 29 30 31 32
NO
Check the FFC between CN9301 and CN4018, and check IC4901 or around the terminal.
NG
Replace the FFC.
YES
Which signal is not output, main or sub signal?
SUB
Is the screen of main side Analog/Digital TV?
NO
It is specified that the image is not displayed in the sub side.
MAIN
YES
Is a signal output from IC4901? (41)(43)(45)
33 34 35
NO
Check around IC4901 and the communication between IC4901 and microcomputer. If there is no problem, replace the MAIN Assy.
YES
Has the signal arrived at IC5301? (43)(48)(54)
36 37 38
NO
Check the circuit between IC4901 and IC5301. If there is no problem, replace the MAIN Assy.
YES
Is the communication between each IC (VDEC, ASIC) on the MAIN Assy and the microcomputer normal?
NO
Check the IC that is found to have failure in communication and around the microcomputer. If there is no problem, replace the MAIN Assy.
YES
Has the symptom been settled when the MAIN Ass'y is replaced?
NO
The panel is defective.
YES
Replace the MAIN Assy.

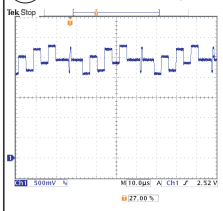
• Waveforms

Component 1080i Color Bar input

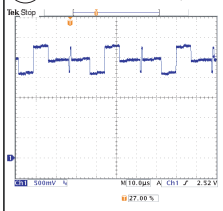
19 **IC4901 (78)or(86)**
V:500mV/div H:10 µsec/div



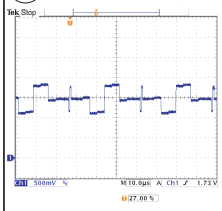
20 **IC4901 (80)or(88)**
V:500mV/div H:10 µsec/div



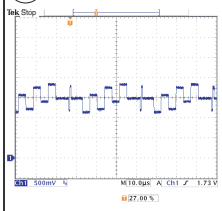
21 **IC4901 (82)or(90)**
V:500mV/div H:10 µsec/div



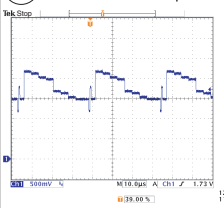
22 **IC4901 (41)**
V:500mV/div H:10 µsec/div



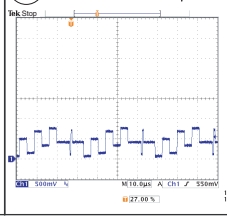
23 **IC4901 (43)**
V:500mV/div H:10 µsec/div



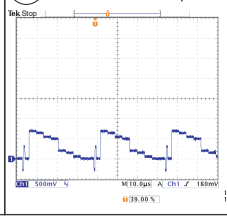
24 **IC4901 (45)**
V:500mV/div H:10 µsec/div



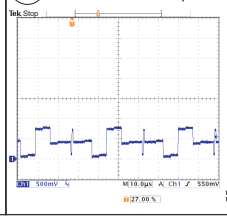
25 **IC5301 (43)**
V:500mV/div H:10 µsec/div



26 **IC5301 (48)**
V:500mV/div H:10 µsec/div

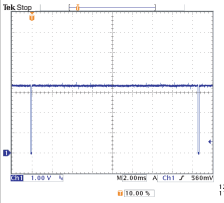


27 **IC5301 (54)**
V:500mV/div H:10 µsec/div

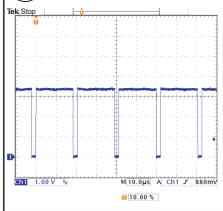


PC XGA/60Hz Color Bar input

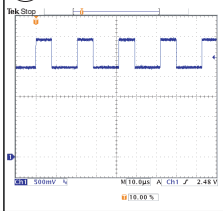
28 **IC4901 (61)**
V:1V/div H:2msec/div



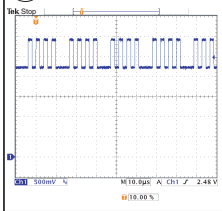
29 **IC4901 (62)**
V:1V/div H:10 µsec/div



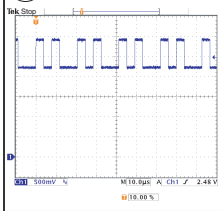
30 **IC4901 (64)**
V:500mV/div H:10 µsec/div



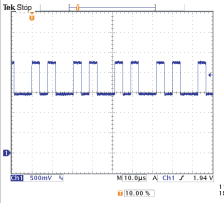
31 **IC4901 (66)**
V:500mV/div H:10 µsec/div



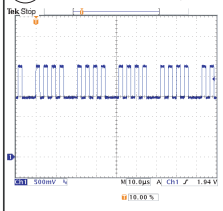
32 **IC4901 (68)**
V:500mV/div H:10 µsec/div



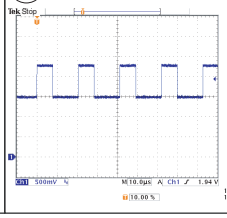
33 **IC4901 (41)**
V:500mV/div H:10 µsec/div



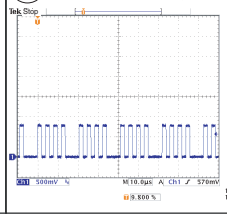
34 **IC4901 (43)**
V:500mV/div H:10 µsec/div



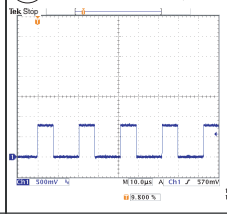
35 **IC4901 (45)**
V:500mV/div H:10 µsec/div



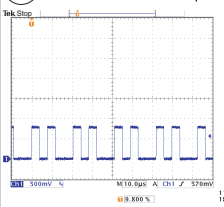
36 **IC5301 (43)**
V:500mV/div H:10 µsec/div



37 **IC5301 (48)**
V:500mV/div H:10 µsec/div

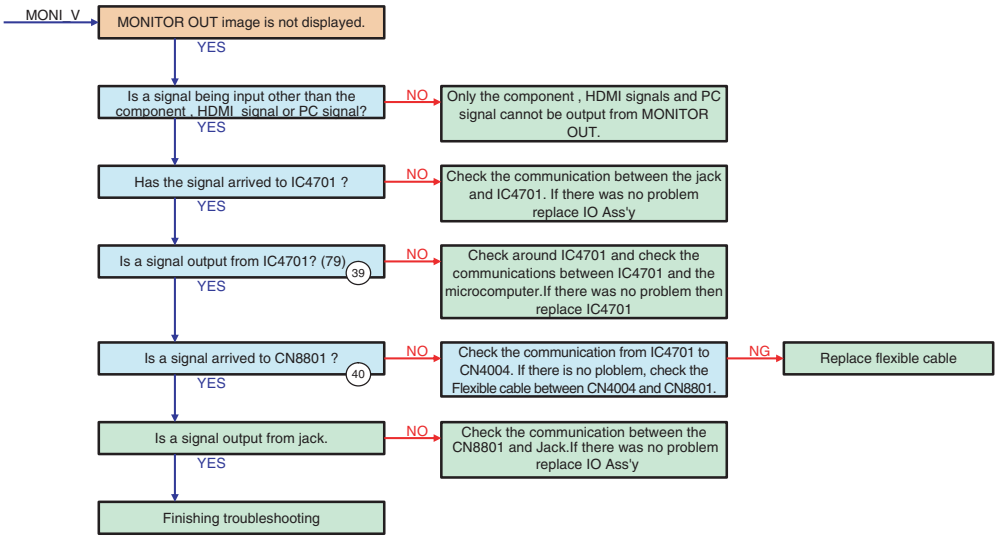


38 **IC5301 (54)**
V:500mV/div H:10 µsec/div



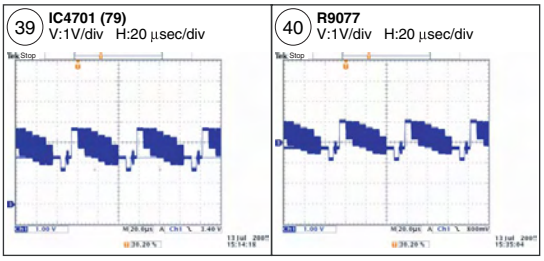
Flowchart of Failure Analysis for The Video-system Assy

No monitor output

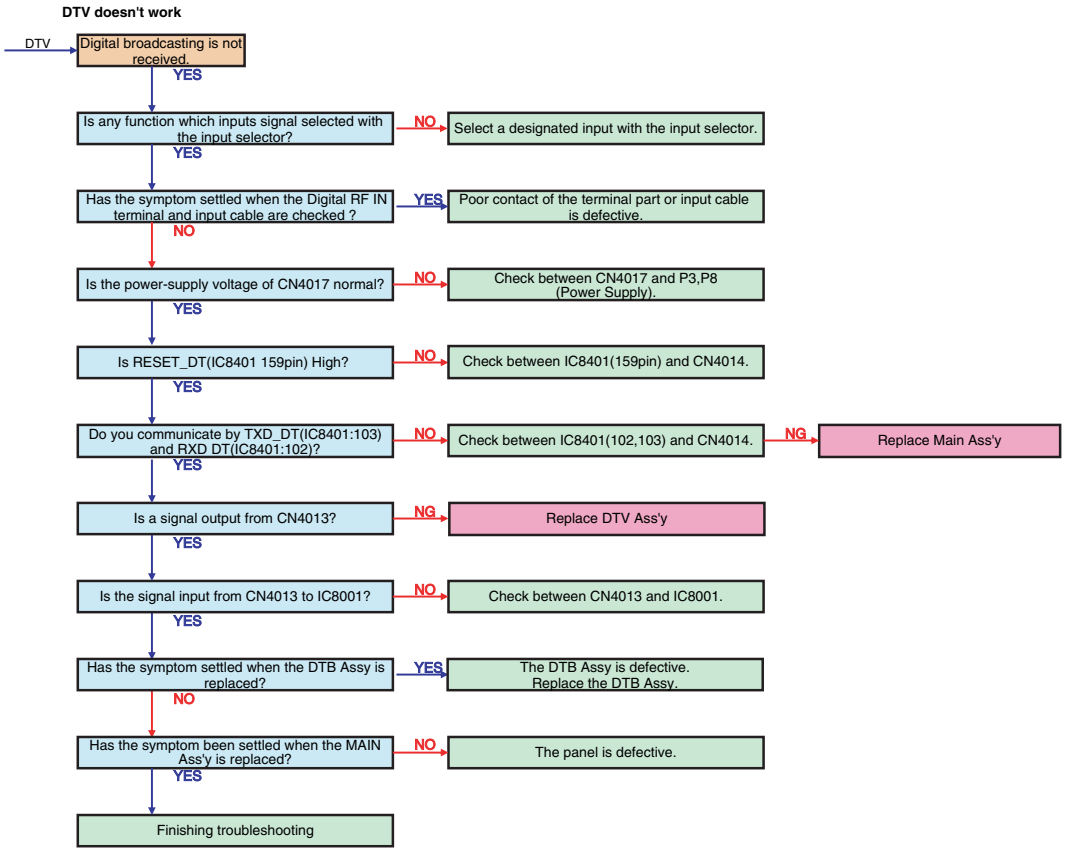

MONI_V
MONITOR OUT image is not displayed.
YES
Is a signal being input other than the component , HDMI signal or PC signal?
NO
Only the component , HDMI signals and PC signal cannot be output from MONITOR OUT.
YES
Has the signal arrived to IC4701 ?
NO
Check the communication between the jack and IC4701. If there was no problem replace IO Ass'y
YES
Is a signal output from IC4701? (79)
39
NO
Check around IC4701 and check the communications between IC4701 and the microcomputer.If there was no problem then replace IC4701
YES
Is a signal arrived to CN8801 ?
40
NO
Check the communication from IC4701 to CN4004. If there is no ploblem, check the Flexible cable between CN4004 and CN8801.
NG
Replace flexible cable
YES
Is a signal output from jack.
NO
Check the communication between the CN8801 and Jack.If there was no problem replace IO Ass'y
YES
Finishing troubleshooting

*Input image is a color bar in all cases

• Waveforms

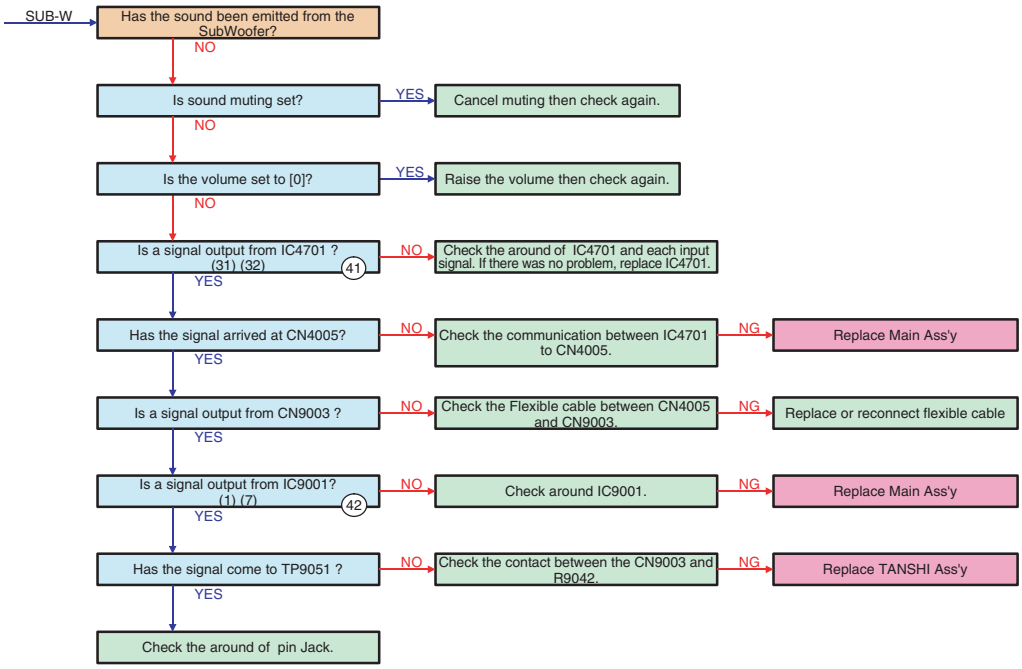


Flowchart of Failure Analysis for The Video-system Assy


DTV doesn't work
DTV
Digital broadcasting is not received.
YES
Is any function which inputs signal selected with the input selector?
NO
Select a designated input with the input selector.
YES
Has the symptom settled when the Digital RF IN terminal and input cable are checked ?
YES
Poor contact of the terminal part or input cable is defective.
NO
Is the power-supply voltage of CN4017 normal?
NO
Check between CN4017 and P3,P8 (Power Supply).
YES
Is RESET_DT(IC8401 159pin) High?
NO
Check between IC8401(159pin) and CN4014.
YES
Do you communicate by TXD_DT(IC8401:103) and RXD DT(IC8401:102)?
NO
Check between IC8401(102,103) and CN4014.
NG
Replace Main Ass'y
YES
Is a signal output from CN4013?
NG
Replace DTV Ass'y
YES
Is the signal input from CN4013 to IC8001?
NO
Check between CN4013 and IC8001.
YES
Has the symptom settled when the DTB Assy is replaced?
YES
The DTB Assy is defective. Replace the DTB Assy.
NO
Has the symptom been settled when the MAIN Ass'y is replaced?
NO
The panel is defective.
YES
Finishing troubleshooting

Flowchart of Failure Analysis for The Video-system Assy

No audio output from subwoofer

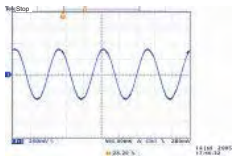


*100Hz input. Sound volume is fixed to 25.

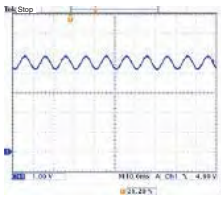
• Waveforms

41

IC4701 (31)(32)AC-SUBWOO
V:200mV/div H:4msec/div

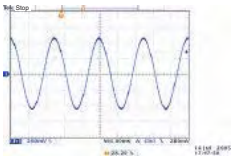


IC4701 (31)(32)DC-SUBWOO

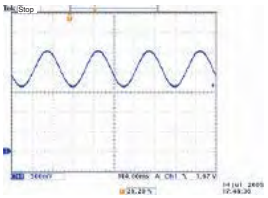


42

IC4704 (1)(7)AC-SUBWOO
V:200mV/div H:4msec/div



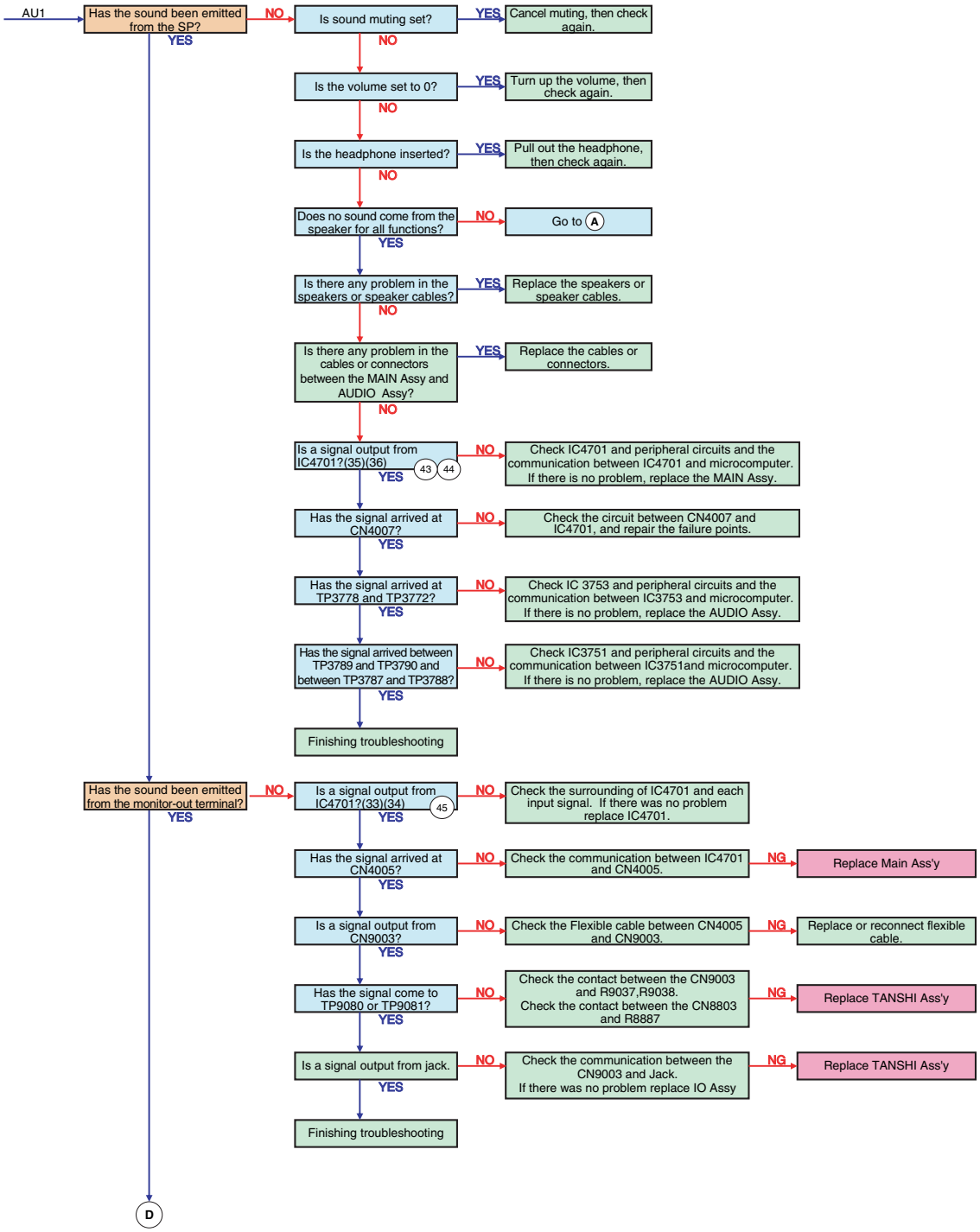
IC4704 (1)(7)DC-SUBWOO

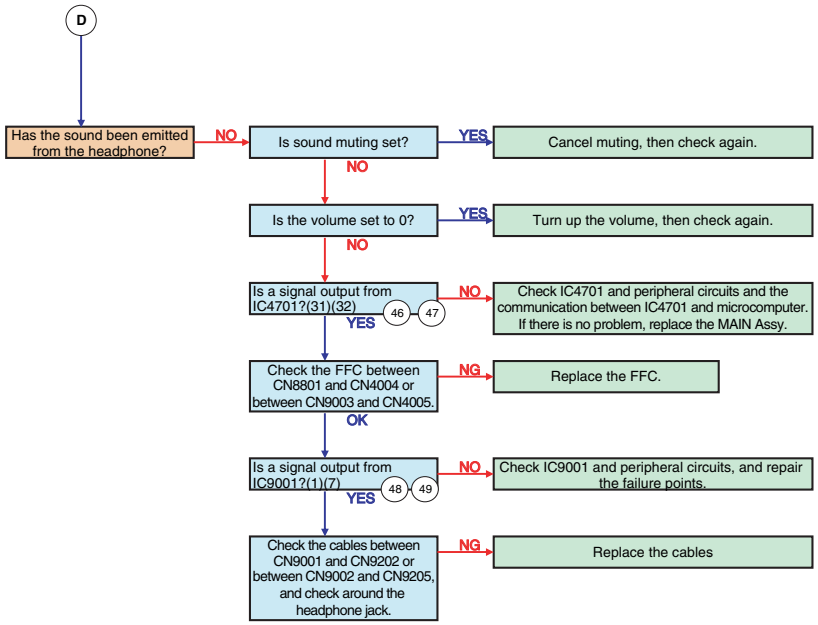


4.1.2 FLOWCHART OF FAILURE ANALYSIS FORTHE AUDIO SYSTEM

Flowchart of Failure Analysis for The Audio-system Assy

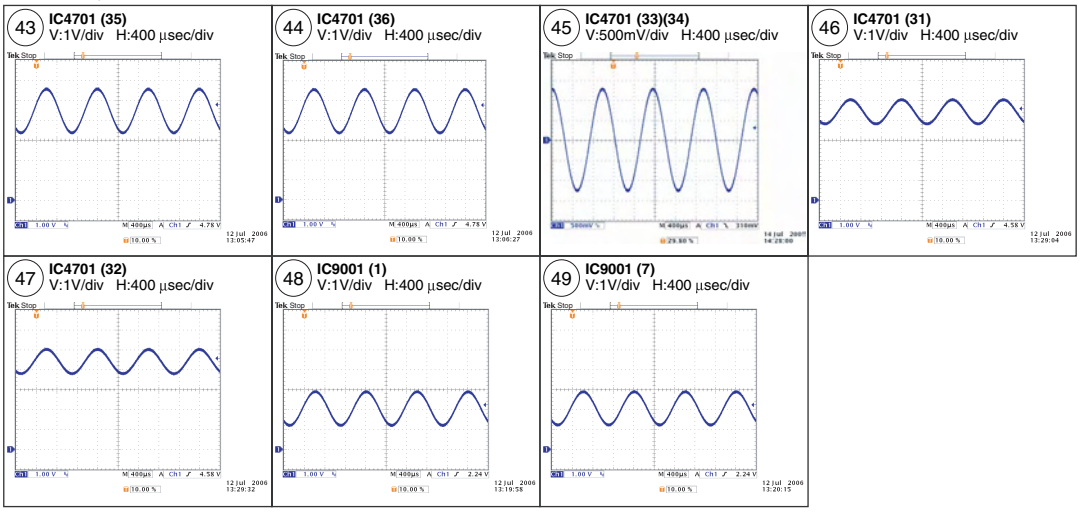
No sound from panel


AU1
Has the sound been emitted from the SP?
NO
YES
Is sound muting set?
YES
Cancel muting, then check again.
NO
Is the volume set to 0?
YES
Turn up the volume, then check again.
NO
Is the headphone inserted?
YES
Pull out the headphone, then check again.
NO
Does no sound come from the speaker for all functions?
NO
Go to A
YES
Is there any problem in the speakers or speaker cables?
YES
Replace the speakers or speaker cables.
NO
Is there any problem in the cables or connectors between the MAIN Assy and AUDIO Assy?
YES
Replace the cables or connectors.
NO
Is a signal output from IC4701?(35)(36)
43
44
NO
Check IC4701 and peripheral circuits and the communication between IC4701 and microcomputer. If there is no problem, replace the MAIN Assy.
YES
Has the signal arrived at CN4007?
NO
Check the circuit between CN4007 and IC4701, and repair the failure points.
YES
Has the signal arrived at TP3778 and TP3772?
NO
Check IC 3753 and peripheral circuits and the communication between IC3753 and microcomputer. If there is no problem, replace the AUDIO Assy.
YES
Has the signal arrived between TP3789 and TP3790 and between TP3787 and TP3788?
NO
Check IC3751 and peripheral circuits and the communication between IC3751and microcomputer. If there is no problem, replace the AUDIO Assy.
YES
Finishing troubleshooting
Has the sound been emitted from the monitor-out terminal?
NO
YES
Is a signal output from IC4701?(33)(34)
45
NO
Check the surrounding of IC4701 and each input signal. If there was no problem replace IC4701.
YES
Has the signal arrived at CN4005?
NO
Check the communication between IC4701 and CN4005.
NG
Replace Main Ass'y
YES
Is a signal output from CN9003?
NO
Check the Flexible cable between CN4005 and CN9003.
NG
Replace or reconnect flexible cable.
YES
Has the signal come to TP9080 or TP9081?
NO
Check the contact between the CN9003 and R9037,R9038. Check the contact between the CN8803 and R8887
NG
Replace TANSHI Ass'y
YES
Is a signal output from jack.
NO
Check the communication between the CN9003 and Jack. If there was no problem replace IO Assy
NG
Replace TANSHI Ass'y
YES
Finishing troubleshooting
D

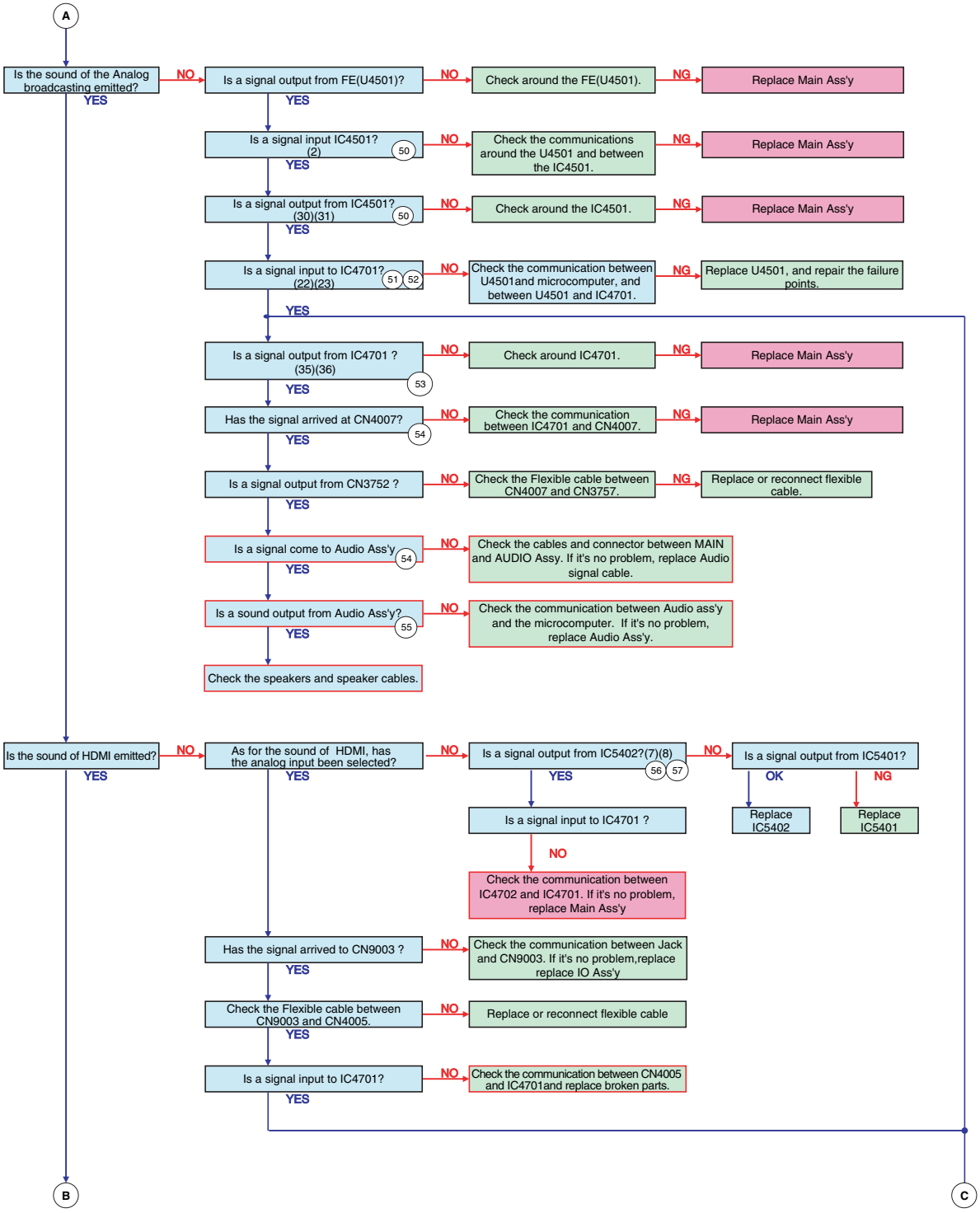

D
Has the sound been emitted from the headphone?
NO
Is sound muting set?
YES
Cancel muting, then check again.
NO
Is the volume set to 0?
YES
Turn up the volume, then check again.
NO
Is a signal output from IC4701?(31)(32)
46
47
NO
Check IC4701 and peripheral circuits and the communication between IC4701 and microcomputer. If there is no problem, replace the MAIN Assy.
YES
Check the FFC between CN8801 and CN4004 or between CN9003 and CN4005.
NG
Replace the FFC.
OK
Is a signal output from IC9001?(1)(7)
48
49
NO
Check IC9001 and peripheral circuits, and repair the failure points.
YES
Check the cables between CN9001 and CN9202 or between CN9002 and CN9205, and check around the headphone jack.
NG
Replace the cables

• Waveforms

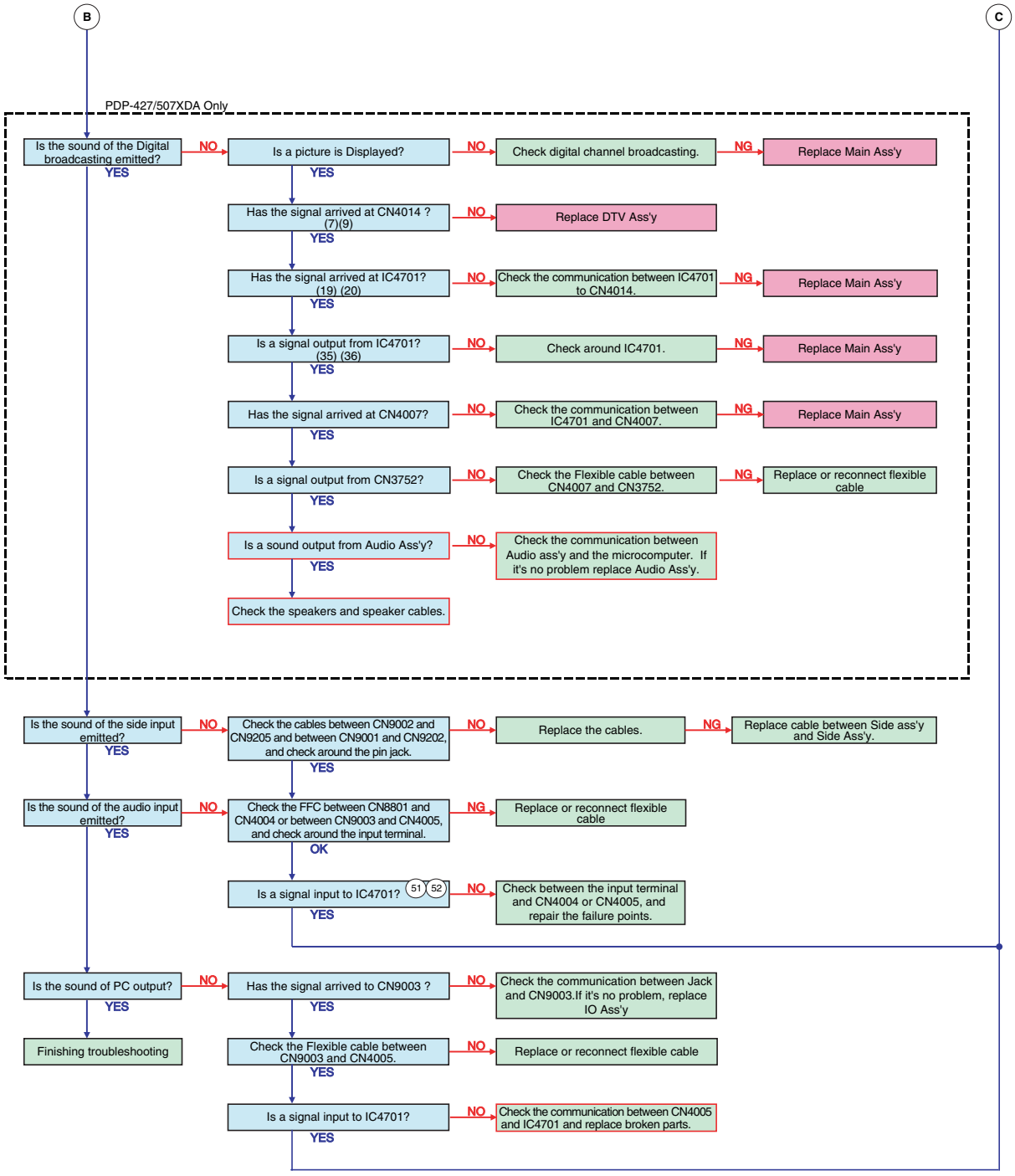
L/R 1kHz input



Flowchart of Failure Analysis for The Audio-system Assy



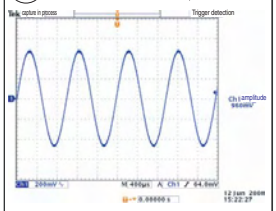
Flowchart of Failure Analysis for The Audio-system Assy



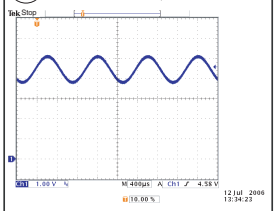
• Waveforms

L/R 1kHz input

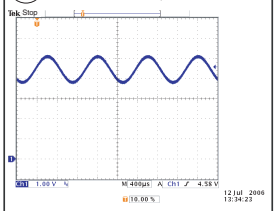
50 IC4501 (2)(30)(31)
V:200mV/div H:400 µsec/div



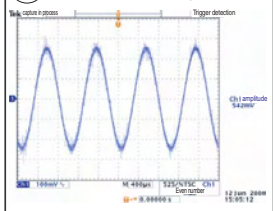
51 IC4701 (22)
V:1V/div H:400 µsec/div



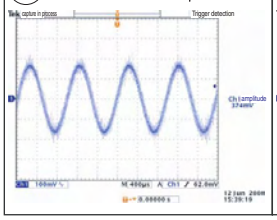
52 IC4701 (23)
V:1V/div H:400 µsec/div



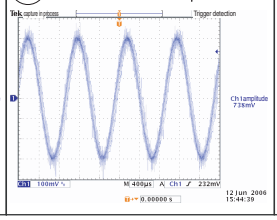
53 IC4701 (35)(36)
V:100mV/div H:400 µsec/div



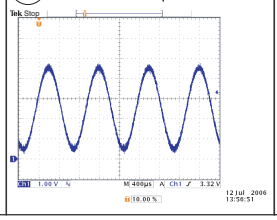
54 CN4007(3)(5)
V:100mV/div H:400 µsec/div



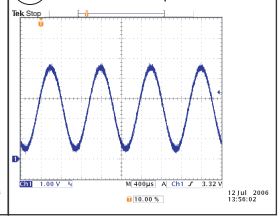
55 IC4701(35)(36)
V:100mV/div H:400 µsec/div



56 IC5402 (7)
V:1V/div H:400 µsec/div



57 IC5402 (8)
V:1V/div H:400 µsec/div



5. ADJUSTMENT

1. At shipment, the unit is adjusted to its best conditions. Normally, it is not necessary to readjust even if an assembly is replaced. If the adjustment is shifted or if it becomes necessary to readjust because of part replacement, etc., perform the adjustment as described below.
2. Any value changed in Service/Factory mode will be stored in memory as soon as it is changed. Before readjustment, take note of the original values for reference in case you need to restore the original settings.
3. Use a stable AC power supply.

5.1 ADJUSTMENT REQUIRED WHEN THE SET IS REPAIRED OR REPLACED

■ When any of the following assemblies is replaced

POWER SUPPLY Unit	Refer to "7.7 HOW TO CLEAR HISTORY DATA" on ARP3396 (PDP-507XD).
50 DIGITAL Assy	Writing of backup data is required. Refer to the "7.4 BACKUP WHEN THE PANEL UNIT IS ADJUSTED" on ARP3396 (PDP-507XD).
50X MAIN DRIVE Assy	No adjustment required
50X SUB DRIVE Assy	No adjustment required
50Y MAIN DRIVE Assy	No adjustment required
50Y SUB DRIVE Assy	No adjustment required
Service Panel Assy	Refer to "7.5 ADJUSTMENTS WHEN THE SERVICE PANEL ASSY IS REPLACED" and "7.7 HOW TO CLEAR HISTORY DATA" on ARP3396 (PDP-507XD).
MAIN Assy	Switching to SR+ from RS-232C
SENSOR Assy	Writing of backup data is required. Refer to the "7.4 BACKUP WHEN THE PANEL UNIT IS ADJUSTED" on ARP3396 (PDP-507XD).
TANSHI Assy	No adjustment required
DTV TUNER BOARD (PDP-507XDA only)	No adjustment required

5.2 ADJUSTMENT REQUIRED WHEN PART IS REPLACED

Notes on replacing parts

For the parts described in the list below, replacement is required for the whole Assy, not only the defective part.
If any part listed below is identified as defective and needs replacement, replace the whole Assy, and make necessary adjustments after replacement.

Reason: The whole Assy must be replaced, because adjustments and data rewriting for the Assy at the level of production line are required.

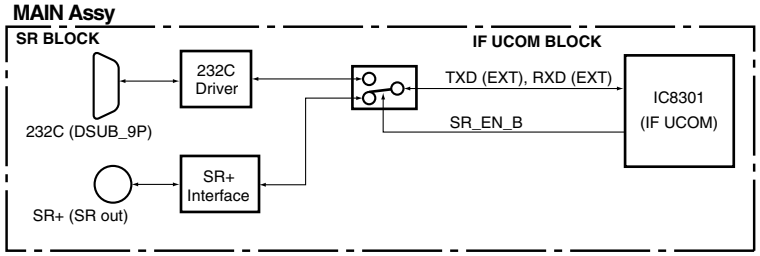
PCB Assy No.	Function Name	Parts that Require Whole-Assy Replacement		
		Ref No.	Function Name	Part No.
AWW1139	50 DIGITAL Assy	IC3151	Module microcomputer	AGC1011
		IC3401	Sequence IC	PEG239A
		IC3301	Flash memory	AGC1009
		IC3156	EEPROM	BR24L04FJ-W
AWW1140	SENSOR Assy	IC3652	EEPROM	BR24L02FJ-W
AWV2324 (PDP-507XC) AWV2322 (PDP507XG and PDP507XDA)	MAIN Assy	IC4603	Flash ROM	AGC1020
		IC4701	AV switch	R2S11002AFT
		IC4901	RGB switch	R2S11001FT
		IC5101	Main VDEC	UPD64015GM-UEU
		IC5103	Sub VDEC	TVP5150AM1PBS
		IC5301	A/D converter	AD9985KSTZ-110
		IC5403	EEPROM	BR24L02FJ-W
		IC5404	EEPROM	BR24L02FJ-W
		IC8202	Flash ROM	AGC1019
		IC8301	Flash UCOM	AGC1016
		IC8402	Flash ROM	AGC1018

POWER SUPPLY Unit	➡	The assembly must be replaced as a unit, and no part replacement is allowed.
MAIN Assy	➡	No adjustment is required after replacement of parts other than those mentioned above.
50 DIGITAL Assy	➡	No adjustment is required after replacement of parts other than those mentioned above.
50X MAIN DRIVE Assy	➡	No adjustment is required after replacement of parts other than those shown in "7.6 ADJUSTMENTS WHEN THE DRIVE ASSYS ARE REPLACED"on ARP3396 (PDP-507XD).
50X SUB DRIVE Assy	➡	No adjustment required
50Y MAIN DRIVE Assy	➡	No adjustment is required after replacement of parts other than those shown in "7.6 ADJUSTMENTS WHEN THE DRIVE ASSYS ARE REPLACED" on ARP3396 (PDP-507XD).
50Y SUB DRIVE Assy	➡	No adjustment required
50 ADDRESS Assy	➡	No adjustment required
SENSOR Assy	➡	No adjustment is required after replacement of parts other than those mentioned above.
TANSHI Assy	➡	No adjustment required
DTV TUNER BOARD (PDP-507XDA only)	➡	This assembly must be replaced as a unit, and no part replacement is allowed.

6. RS-232C
6.1 OUTLINE OF RS-232C COMMAND
6.1.2 USING RS-232C COMMANDS

For the PDP-507XC, PDP-507XG and PDP-507XDA series Plasma Displays, the circuitry is structured as shown in the diagram below to support the SR+ system. Controlling with either the SR+ system or RS-232C commands can be selected. As the SR+ system is selected at shipment, to control with RS-232C commands in servicing it is necessary to switch the paths. After servicing, be sure to return the setting to the SR+ system.

■ Rough diagram of switching between SR+ and RS-232C



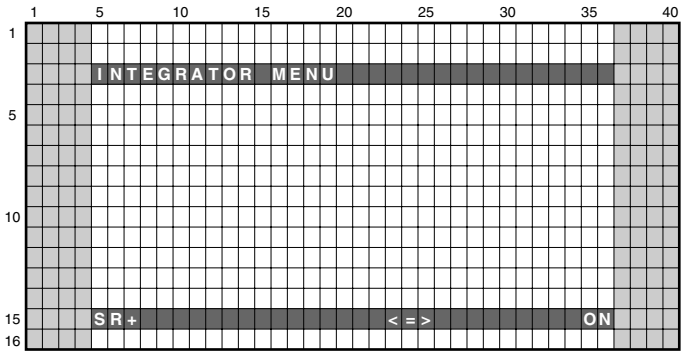
■ How to switch SR+/RS-232C ?

There are "How to switch SR+/RS-232C by remote control in the Standby Mode" and "How to switch SR+/RS-232C by remote control in the INTEGRATOR MENU" as a Method

① To select SR+/RS-232C by remote control in Standby Mode.
- During Standby mode, hold the keys other than the [POWER] key on the remote control, the following operation is done within 10 seconds.

To select from SR+ to RS-232C/To select from RS-232C to SR+.
- During standby mode, hold the [VOLUME+ (or -)] key on the remote control unit pressed for 3 to 10 seconds. →Then within 3 seconds after the key is released, hold the [2-screen] key released, use the [SET (ENTER)] key on the remote control unit to set to RS-232C (the baud rate last selected is chosen) or the [HOME MENU] key to set to SR+.
- During IF Standby mode (once 10 seconds or more has passed after the LED goes dark during communication), the first keypress may not be accepted. In such a case, for a key operation, first press any key other than the [POWER] key and [CH] keys, then the desired key.
- At the switch SR+/RS-232C, the LED will be blinked on the fixed time.

② To select SR+/RS-232C in the INTEGRATOR MENU.
- How to enter INTEGRATOR MENU.
  During standby mode, press the [Home Menu] key, and then press the [POWER] key within 3 seconds. During factory mode, hold the [INTEGRATOR] key.
- In INTEGRATOR MENU, there is a OSD where SR+ (or RS-232C) is turned on/off, and it switches on the screen.



6.2 OUTLINE OF EACH COMMAND

6.2.1 QS6

Induce it peculiar, individual information is acquired.

Command Format	Effective Operation Modes	Function	Remarks
[QS6]	Every time	Output of status	

• AU Model

Order	Part	Data Arrangement	Data Length	Remarks
00	–	Received Command name	3 byte	QS6
01		DTB version	4 byte	
02		Reserved	8 byte	
03		TELE-TEXT version	60 byte	
04		USER PASSWORD	4 byte	
05	–	Check Sum	2 byte	

• GE Model

Order	Part	Data Arrangement	Data Length	Remarks
00	–	Received Command name	3 byte	QS6
01		Reserved	12 byte	
02		TELE-TEXT version	60 byte	
03		USER PASSWORD	4 byte	
04		Check Sum	2 byte	

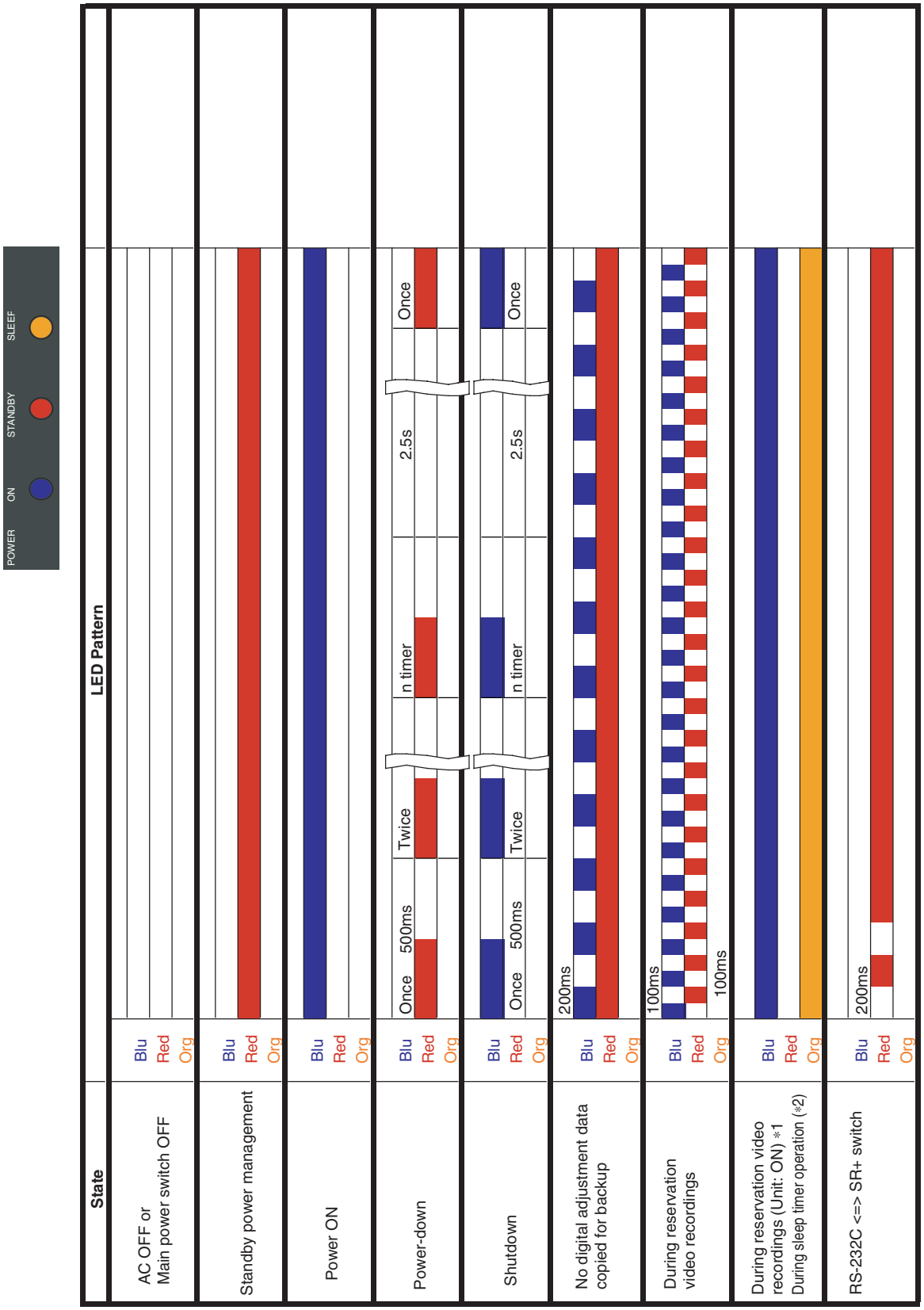
• CH Model

Order	Part	Data Arrangement	Data Length	Remarks
00	–	Received Command name	3 byte	QS6
01		Reserved	72 byte	
02		USER PASSWORD	4 byte	
03		Check Sum	2 byte	

7. GENERAL INFORMATION

7.1 LED INFORMATION

• LED Pattern



*1: PDP-507XDA type
*2: PDP-507XG, PDP-507XC types

7.2 GENERAL INFORMATION (PDP-507XDA Only)

• GENERAL INFORMATION (PDP-507XDA Only)

Display Method of Signal Level, Quality, and BER Information Screen

MANUAL SCAN screen has these information.

Operation : Manual Scan
HOMEMENU => Setup => DTV Setup => Installation => Input Password =>Manual Scan

Sinal Level
Quality
"Signal Level" and "Quality" are displayed on Manual Scan screen.
These level indicater are laugh standard.
Please use them as reference

BER
While displaying Manual Scan screen, please press the following keys within 5 seconds.
Operation : BER
1. Green Key
2. I-II Key
3. Enter Key

This BER function is effective until turning off power.

Fig : Manual Scan screen

8. SERVICE FACTORY MODE

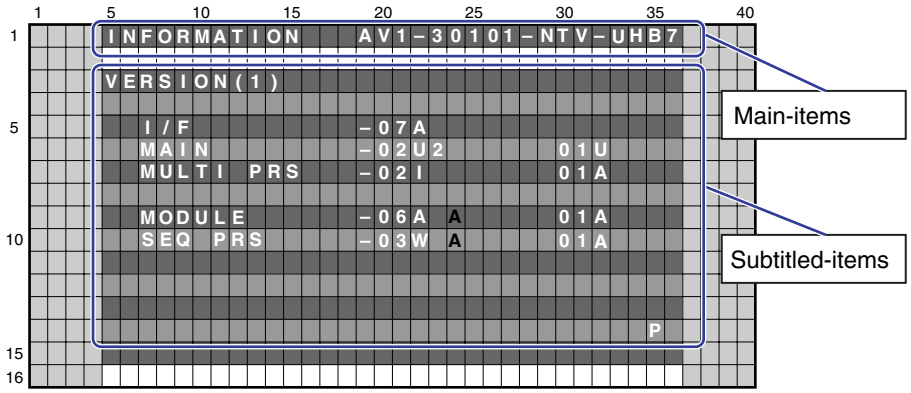
8.1 OUTLINE OF THE SERVICE FACTORY

8.1.1 FACTORY HIERARCHICAL TABLE

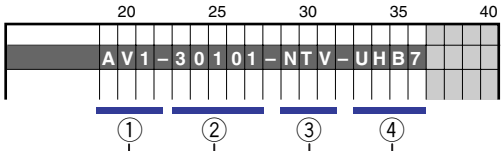
Large Item / Middle Item	Small Item	Variable / Adjustment Range	Remarks
8.2.1 INFORMATION			
8.2.1.1 VERSION (1)			
8.2.1.2 VERSION (2)			
8.2.1.3 MAIN NG	CLEAR <=>	OFF <=> ON	
8.2.1.4 TEMPERATURE			
8.2.1.5 HOUR METER			
8.2.1.6 HDMI SIGNAL INFO 1			
8.2.1.7 HDMI SIGNAL INFO 2			
8.2.1.8 VDEC SIGNAL INFO			
8.2.2 PANEL FACTORY (+)			
8.2.2.1 PANEL INFORMATION			
8.2.2.2 PANEL WORKS			
8.2.2.3 POWER DOWN			
8.2.2.4 SHUT DOWN			
8.2.2.5 PANEL-1 ADJ (+)	X-SUS B <=>	120 to 136	Equivalent to XSB
	Y-SUS B <=>	120 to 136	Equivalent to YSB
	Y-SUSTAIL T1 <=>	120 to 136	Equivalent to YTG
	Y-SUSTAIL T2 <=>	120 to 136	Equivalent to YTB
	Y-SUSTAIL W <=>	120 to 136	Equivalent to YTW
	XY-RST W1 <=>	120 to 136	Equivalent to RSW
	XY-RST W2 <=>	120 to 136	Equivalent to RYW
	VOL SUS <=>	000 to 255	Equivalent to VSU
	VOL OFFSET <=>	000 to 255	Equivalent to VOF
	VOL RST P <=>	000 to 255	Equivalent to VRP
	SUS FREQ. <=>	MODE 1 to MODE 8	Equivalent to SFR
8.2.2.6 PANEL-2 ADJ (+)	R-HIGH <=>	000 to 511	Equivalent to PRH
	G-HIGH <=>	000 to 511	Equivalent to PGH
	B-HIGH <=>	000 to 511	Equivalent to PBH
	R-LOW <=>	000 to 999	Equivalent to PRL
	G-LOW <=>	000 to 999	Equivalent to PGL
	B-LOW <=>	000 to 999	Equivalent to PBL
	ABL <=>	000 to 255	Equivalent to ABL
8.2.2.7 PANEL REVISE (+)	R-LEVEL <=>	LV-0 to LV-7	Equivalent to RRL
	G-LEVEL <=>	LV-0 to LV-7	Equivalent to RGL
	B-LEVEL <=>	LV-0 to LV-7	Equivalent to RBL
8.2.2.8 ETC. (+)	BACKUP DATA <=>	NO OPRT <=> TRANSFER or ERR	Equivalent to BCP
	DIGITAL EEPROM <=>	NO OPRT <=> DELETE/REPAIR	Equivalent to FAJ/UAJ
	PD INFO. <=>	NO OPRT <=> CLEAR	Equivalent to CPD
	SD INFO. <=>	NO OPRT <=> CLEAR	Equivalent to CSD
	HR-MTR INFO. <=>	NO OPRT <=> CLEAR	Equivalent to CHM
	PM/B1-B5 <=>	NO OPRT <=> CLEAR	Equivalent to CPM
	P COUNT INFO. <=>	NO OPRT <=> CLEAR	Equivalent to CPC
	MAX TEMP. <=>	NO OPRT <=> CLEAR	Equivalent to CMT
8.2.2.9 RASTER MASK SETUP (+)	MASK OFF	<=> 48V <=> 50V <=> 60V <=> 60P <=> 70P <=> 72V <=> 75V <=>	Equivalent to MKS+S00
	RST MASK 01 <=>		Equivalent to MKS+S51
	• • •		• • •
	RST MASK 24 <=>		Equivalent to MKS+S74
8.2.2.10 PATTEN MASK SETUP (+)	MASK OFF	<=> 48V <=> 50V <=> 60V <=> 60P <=> 70P <=> 72V <=> 75V <=>	Equivalent to MKS+S00
	PTN MASK 01 <=>		Equivalent to MKS+S01
	• • •		• • •
	PTN MASK 39 <=>		Equivalent to MKS+S39
8.2.2.11 COMBI MASK SETUP (+)	MASK OFF	<=> 48V <=> 50V <=> 60V <=> 60P <=> 70P <=> 72V <=> 75V <=>	Equivalent to MKC+S00
	CMB MASK 01 <=>		Equivalent to MKC+S01
	• • •		• • •
	CMB MASK 10 <=>		Equivalent to MKC+S10
8.2.3 OPTION			
8.2.3.1 EDID WRITE MODE <=>			Exclusively used for production line
8.2.3.2 CH PRESET <=>			
8.2.4 INITIALIZE			
8.2.4.1 SYNC DET (+)			for the technical analysis
8.2.4.2 SG MODE <=>		SG OFF <=> • • •	
8.2.4.3 SG PATTERN <=>		SG PATTERN <=> COLOR BAR 1 • • •	
8.2.4.4 SIDE MASK LEVEL (+)	R MASK LEVEL <=>	000 to 255	
	G MASK LEVEL <=>	000 to 255	
	B MASK LEVEL <=>	000 to 255	
8.2.4.5 FINAL SETUP (+)	DATA RESET <=>	OFF <=> ON	
8.2.4.6 CVT AUTO <=>			Exclusively used for technical analysis (details omitted)
8.2.4.7 HDMI INTR POSITION (+)	INTR-POS1 (0x75) <=>	000 to 255	
	INTR-POS2 (0x76) <=>	000 to 255	
	INTR-POS3 (0x77) <=>	000 to 255	
	INTR-POS4 (0x78) <=>	000 to 255	

Notes : the marked part is changed.

8.1.2 INDICATIONS IN SERVICE FACTORY MODE



■ Main-item indications



① Input function

Input Functions	OSD
VIDEO 1 to 5	VD 1 to 5
Terrestrial Analog Wave	AIR
Terrestrial Digital Wave	ARD
PC	PC

② SIG mode and Screen size

Note: See SIG-Mode Tables. (Refer to ARP3396 (PDP-507XD))

③ Color system and Signal type

Color System and Signal Type	OSD1	OSD2
NTSC	NTV	NTS
PAL	PLV	PLS
PAL M	PMV	PMS
PAL N	PNV	PNS
SECAM	SCV	SCS
4.43 NTSC	4NV	4NS
BLACK/WHITE	BWV	BWS
Y/CB/CR	CBR	
Y/PB/PR	PBR	
RGB	RGB	
Digital Video signal	DIG	

Note: OSD1 (Composite input), OSD2 (S-Connector input)

④ Option (Destination, Panel Generation, etc.)

Options	OSD
SX system for Australia (XDA model)	UHB
SX system for General Region (XG model)	GTB
SX system for China (XC model)	CTB

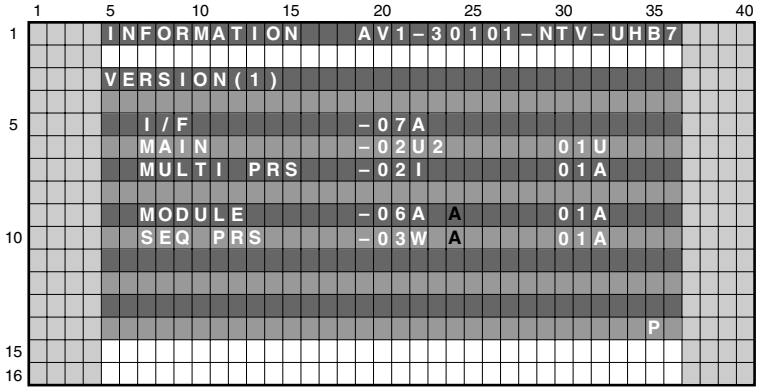
8.2 FACTORY MENU

8.2.1 INFORMATION

● **Operation items**

No.	Function/Display	Context	RS-232C Command
1	VERSION (1)	The software versions for each microcomputer are displayed. (Common part)	QS1
2	VERSION (2)	The Flash memory versions for each device are displayed. (Individual part)	QS6
3	MAIN NG	The Shutdown Message ID/Event Times in Main Microcomputer are displayed.	QNG
4	TEMPERATURE	The Temperature/FAN rotating status in Main Microcomputer are displayed.	QMT
5	HOUR METER	The HOUR METER/P-COUNT information are displayed.	QIP
6	HDMI SIGNAL INFO 1	The Information of HDMI information files are displayed.	–
7	HDMI SIGNAL INFO 2		
8	VDEC SIGNAL INFO	Display the Signal Information on VDEC.	–

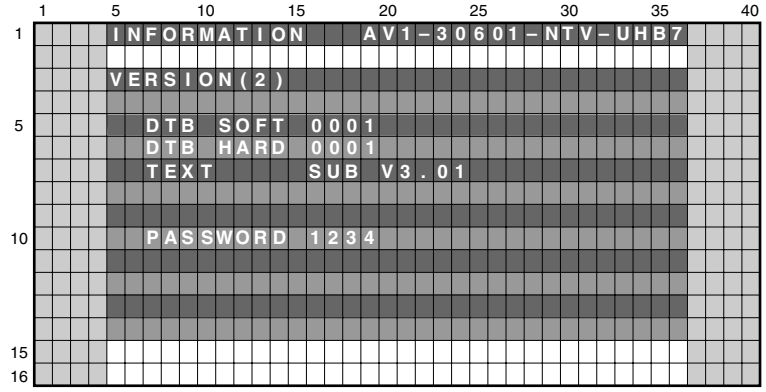
8.2.1.1 VERSION (1)



Microcomputer	Item Name	Display Example (Execution program block)	Display Example (Boot block)
I/F microcomputer	I/F	-07A	–
Main microcomputer	MAIN	-02U2	01U
Multi processor	MULTI PRG	-02I	01A
Module microcomputer	MODULE	-06A_A	01A
Sequence processor	SEQ PRS	-03W_A	01A

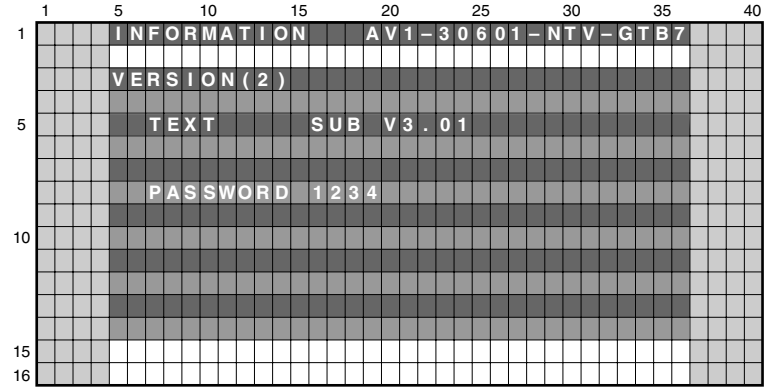
Note: In the 29-32 rows, the Boot version information on each device is displayed.
In the 19-24 rows, the version of the execution program is displayed.
At the position "14x35", The Past/Highly effective panel distinction information is displayed.

8.2.1.2 VERSION (2)



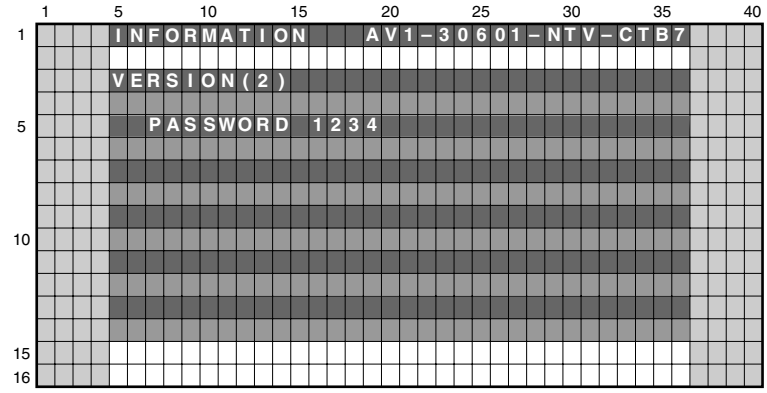
XDA-Model

Flash Device	Item Name	Display Example
DTB Software Version	DTB SOFT	0001
DTB Hardware Version	DTB HARD	0001
TEL TEXT	TEXT	SUB V3.01
User Password	PASSWORD	1234



XG-Model

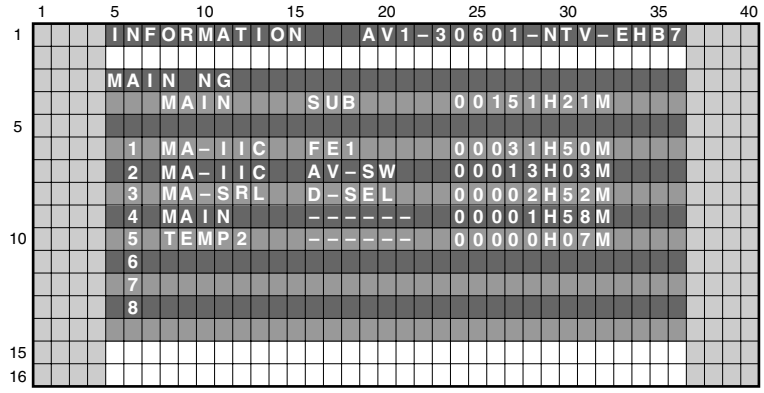
Flash Device	Item Name	Display Example
TeleTEXT	TEXT	SUB V3.01
User Password	PASSWORD	1234



XC-Model

Flash Device	Item Name	Display Example
User Password	PASSWORD	1234

8.2.1.3 MAIN NG



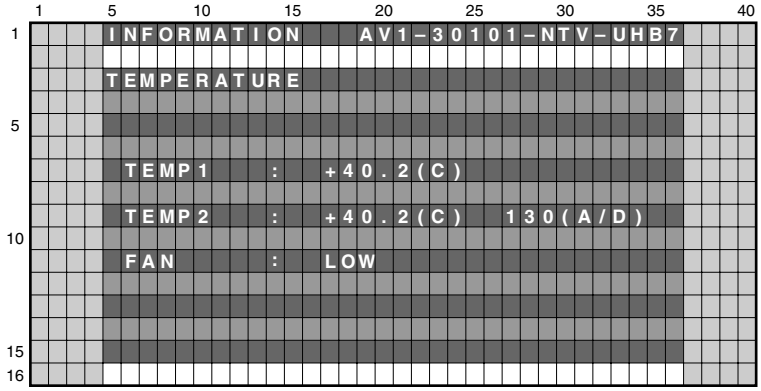
MTB side's Shutdown NG information

OSD: MAIN	OSD: SUB	Cause of Shutdown
AUDIO	----	
MODULE	----	Failure of communication to Module microcomputer.
MA-SRL		3-wire Serial Communication of Main microcomputer.
	IF	Communication failure of IF microcomputer
	MULTI1	Multi Processor communication failure (MULIT1)
	I/P	Multi Processor communication failure (I/P)
	D-SEL	Multi Processor communication failure (D-SEL)
MA-IIC		IIC Communication failure of Main microcomputer
	FE1	Analog Tuner 1 (Front End 1)
	MPX	MPX
	AUDIO	
	AV-SW	AV Switch
	RGB-SW	RGB Switch
	M-VDEC	Main VDEC
	S-VDEC	Sub VDEC
	ADC	AD/PLL
	HDMI	HDMI
	TX-COM	TX communication failure
	TX-BSY	TX Busy
	MA-EEP	64k EEPROM
MAIN		Communication failure of Main microcomputer &Unknown Error
FAN		Fan stopped
TEMP2		Abnormally high temperature at MTB.
DTUNER*		Failure of Digital Tuner
	PS/RST	Failure to DTB Starting
	RETRY	–
MA-PWR	M-DCDC	Abnormally in RST2 of MTB. (power decrease of DC-DC converter)
	RELAY	–

Note) DTUNER : XDA model only

8.2.1.4 TEMPERATURE

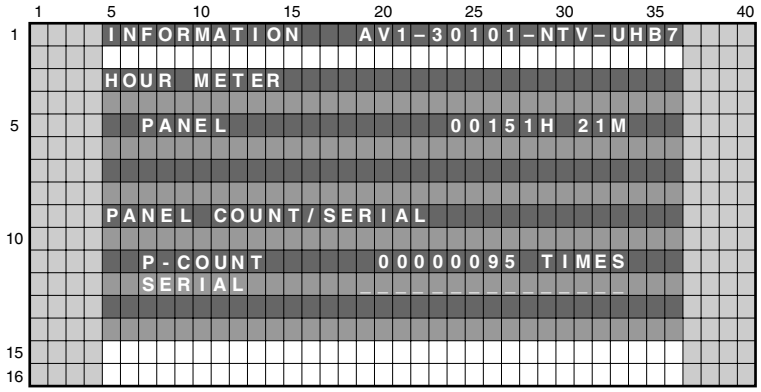
A present temperature and the FAN rotation are displayed.
If either [⬅] key or [➡] key is pressed, the display data is refreshed.



• Display/Meaning

TEMP1 : The temperature of the sensor on the panel side is displayed by the centigrade.
TEMP2 : The temperature conversion display is done with 10bit the A/D input value of Main uCON 76 pin (AN0). It is displayed by both the centigrade (C) and 8bit A/D value.
(Remark:When temperature (C) of the sensor becomes more than a specified temperature, the shutdown start of processing.)
FAN : The value of the Fan rotating state is displayed.
STOP : stopped, LOW: slow speed, HIGH: high speed.

8.2.1.5 HOUR METER



• Display/Meaning

Meaning	Item Name	Display Example	Corresponding RS232C Command
HOUR METER (PANEL)	PANEL	00151H 21M	QIP
POWER ON COUNTER	P-COUNT	00000095 TIMES	QIP
SYSTEM SERIAL	SERIAL		QIP

Note 1: The SYSTEM SERIAL displays only FHD. It corresponds by sticking the seal in G7 model.
Note 2: The PANEL-side's HOUR METER/P-COUNT acquires information from the PANEL-side.

8.2.4 INITIALIZE

Operation item

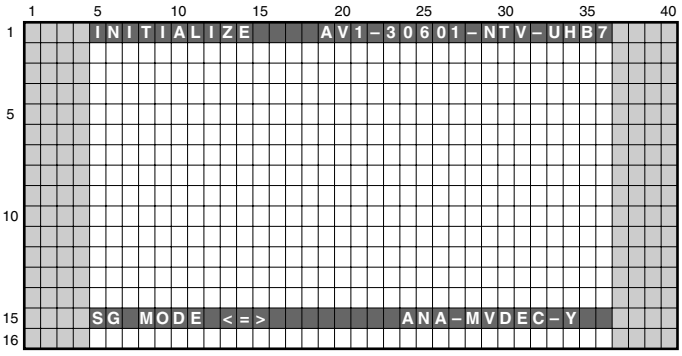
No.	Function	Content	RS232C
1	SYNC DET (+)	Exclusively used for technical analsyis.	–––
2	SG MODE ⇔	Paired SG_MODE with SG_PATTERN. Select SG Route.	–––
3	SG PATTERN ⇔	Paired SG_MODE with SG_PATTERN. Select SG Pattern.	–––
4	SIDE MASK LEVEL (+)	Configure the color of the side mask.	BSL, GSL, RSL
5	FINAL SETUP (+)	Initialize flash memorys on virgin product status	FST
6	CVT AUTO ⇔	Exclusively used for technical analsyis.	–––
7	HDMI INTR POSITION (+)	Exclusively used for technical analsyis.	–––

8.2.4.1 SYNC DET (+)

Exclusively used for technical analsyis (details omitted).

6.2.4.2 SG MODE

SG MODE (SG's route selection) / SG PATTERN (signal pattern selection) are used as pair.
In SG MODE, select the SG route and then select the SG pattern to be sent by the selected route.
In SG MODE, make sure to select the route first.



Operation item

No.	Display	Content
1	SG OFF	SG Mode is OFF.
2	DIG MVDEC YCBCR	MAIN VDEC: YCbCr (Digital output mode)
3	ANA MVDEC Y	MAIN VDEC: Y (Analog output mode: SG VDEC return setting)
4	ANA SVDEC Y	SUB VDEC:Y
5	ANA AD YCBCR	AD: YcbCr (Analog output to the RGB SW)
6	ANA AD RGB	AD: RGB (Analog output to the RGB SW)

Please confirm "SG generation place" and "Route of the signal" by the block chat.

9. SPECIFICATIONS

Item			50" Plasma Television, Model: PDP-507XDA	Model: PDP-507XG, PDP-507XC
Number of Pixels			1365 x 768 pixels	1365 x 768 pixels
Audio Amplifier			13 W + 13 W (1 kHz, 10 %, 8)	13 W + 13 W (1 kHz, 10 %, 8)
Speakers			–	–
Surround System			SRS/FOCUS/TruBass	SRS/FOCUS/TruBass
Power Requirement			240 V AC, 50 Hz/60 Hz, 350 W (0.4 W Standby)	110 V to 240 V AC, 50 Hz/60 Hz, 348 W (0.2 W Standby) : (507XG) 220 V to 240 V AC, 50 Hz/60 Hz, 343 W (0.3 W Standby) : (507XC)
Dimensions			1224 mm (W) x 717 mm (H) x 115 mm (D)	1224 mm (W) x 717 mm (H) x 115 mm (D)
Weight			34.8 kg (76.8 lbs.)	34.1 kg (75.2 lbs.)
Colour System		Analogue	PAL/SECAM/NTSC/4.43NTSC /PAL-M/PAL-N	
		Digital	PAL	
TV Function (Analogue)	Receiving System		PAL : B/G, D/K, I, SECAM : B/G, D/K NTSC : M/N	
	Tuner	VHF/UHF	44.25 MHz to 863.25 MHz	
		CATV	Hyper-band, S1 ch to S41 ch	
	Auto Channel Preset		99 ch, Auto Preset /507XG only : 99 ch (Normal), 68 ch (Air, US type), 125 ch (Cable, US type) Auto Preset	
	STEREO		NICAM/A2/BTSC System	
TV Function (Digital) (*)	Receiving System		DVB-T (2K/8K COFDM)	
	Tuner	VHF/UHF	VHF Band III (104.5 MHz to 226.5 MHz) and UHF Band (526.5 MHz to 816.5 MHz)	
	Auto Channel Preset		999 ch, Auto Preset, Auto Label,	
	STEREO		MPEG layer I/II, Dolby Digital	
Terminals	Rear	INPUT 1	COMPONENT VIDEO in, S-VIDEO in, AV in	
		INPUT 2	COMPONENT VIDEO in, S-VIDEO in, AV in	
		INPUT 3	S-VIDEO in, AV in, HDMI in*1	
		INPUT 4	HDMI in*1	
		PC INPUT	Analog RGB in, AUDIO (STEREO) in	
		CONTROL OUT	1	
		MONITOR OUT	AV out	
		SUBWOOFER	Variable	
		DIGITAL OUT(*)	Digital audio output (Optical)	
		SPEAKER	8 Ω to 16 Ω	
		Antenna	75 Ω Din Type for VHF/UHF in (Analogue)	
			75 Ω Din Type for VHF/UHF in (Digital) (*)	
	Side	INPUT 5	S-VIDEO, AV in	
		PHONES OUT	16 Ω to 32 Ω recommended	

*1 This conforms to HDMI1.1 and HDCP1.1.
HDMI (High Definition Multimedia Interface) is a digital interface that handles both video and audio using a single cable.
HDCP (High-bandwidth Digital Content Protection) is a technology used to protect copyrighted digital contents that use the Digital Visual Interface (DVI).

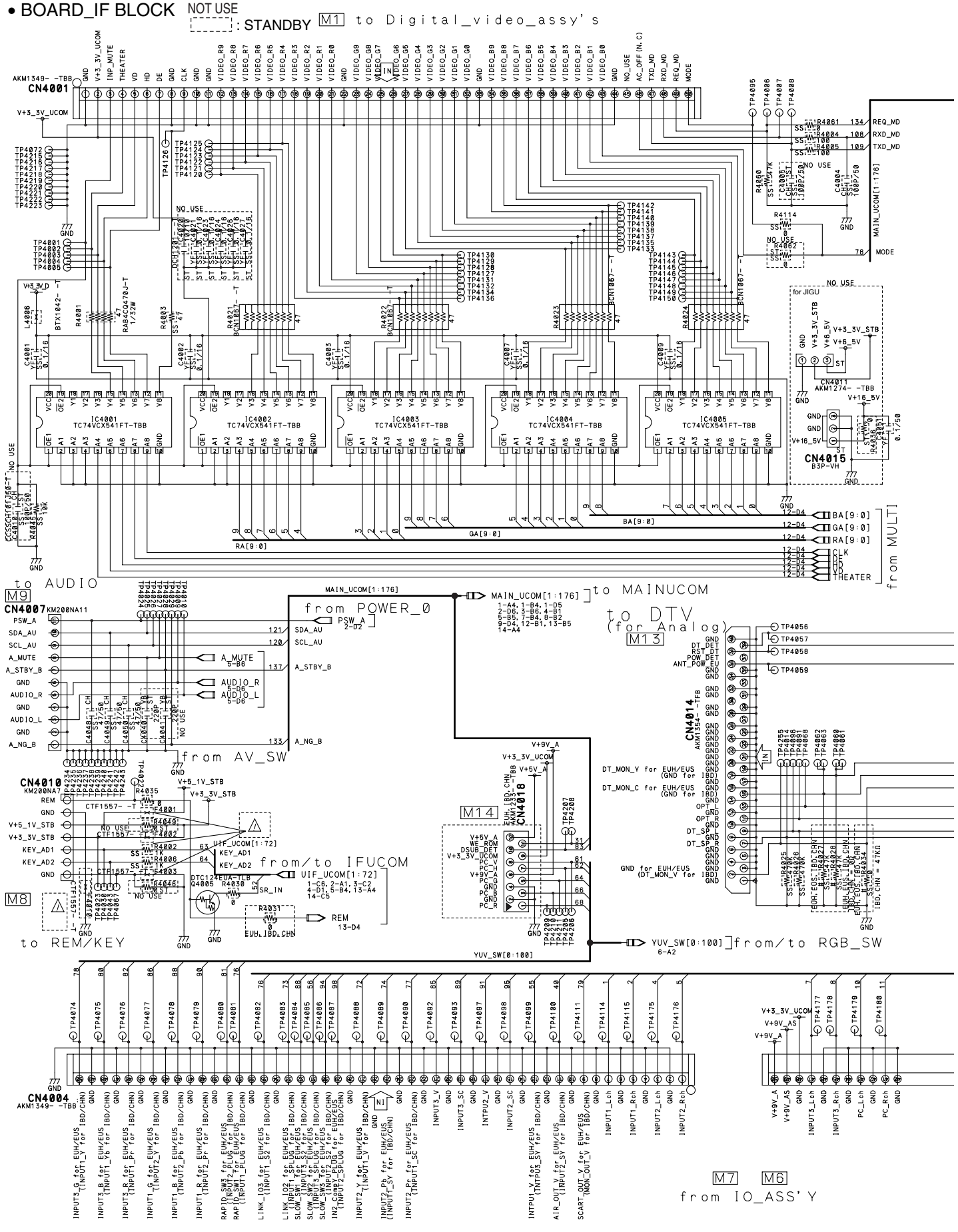
(*) : PDP-507XDA Only

Design and specifications are subject to change without notice.

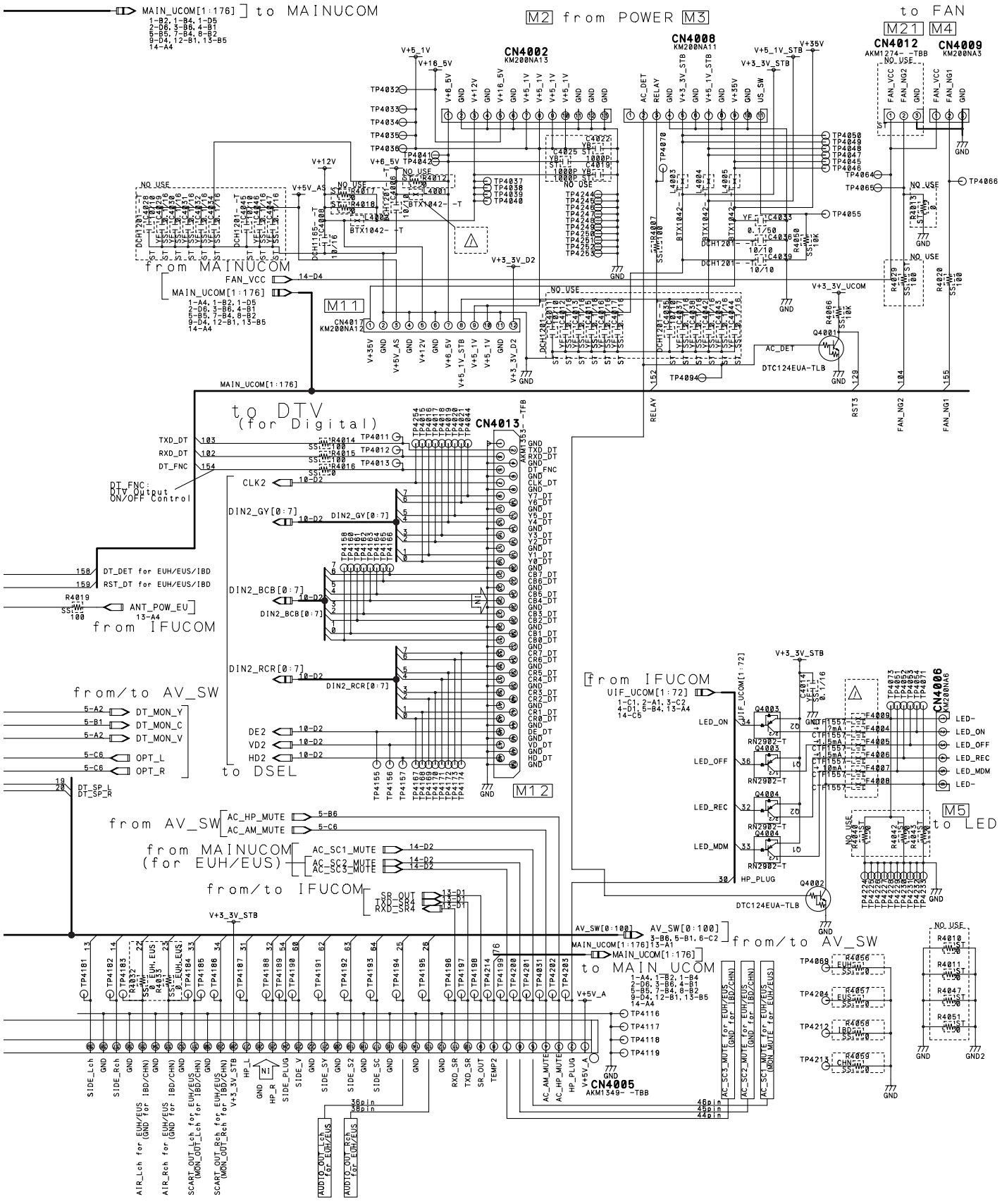
10. SCHEMATIC DIAGRAM

10.1 MAIN ASSY (1/14) [BOARD IF BLOCK]

MAIN ASSY (EU/IBD) (1/14)



- When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

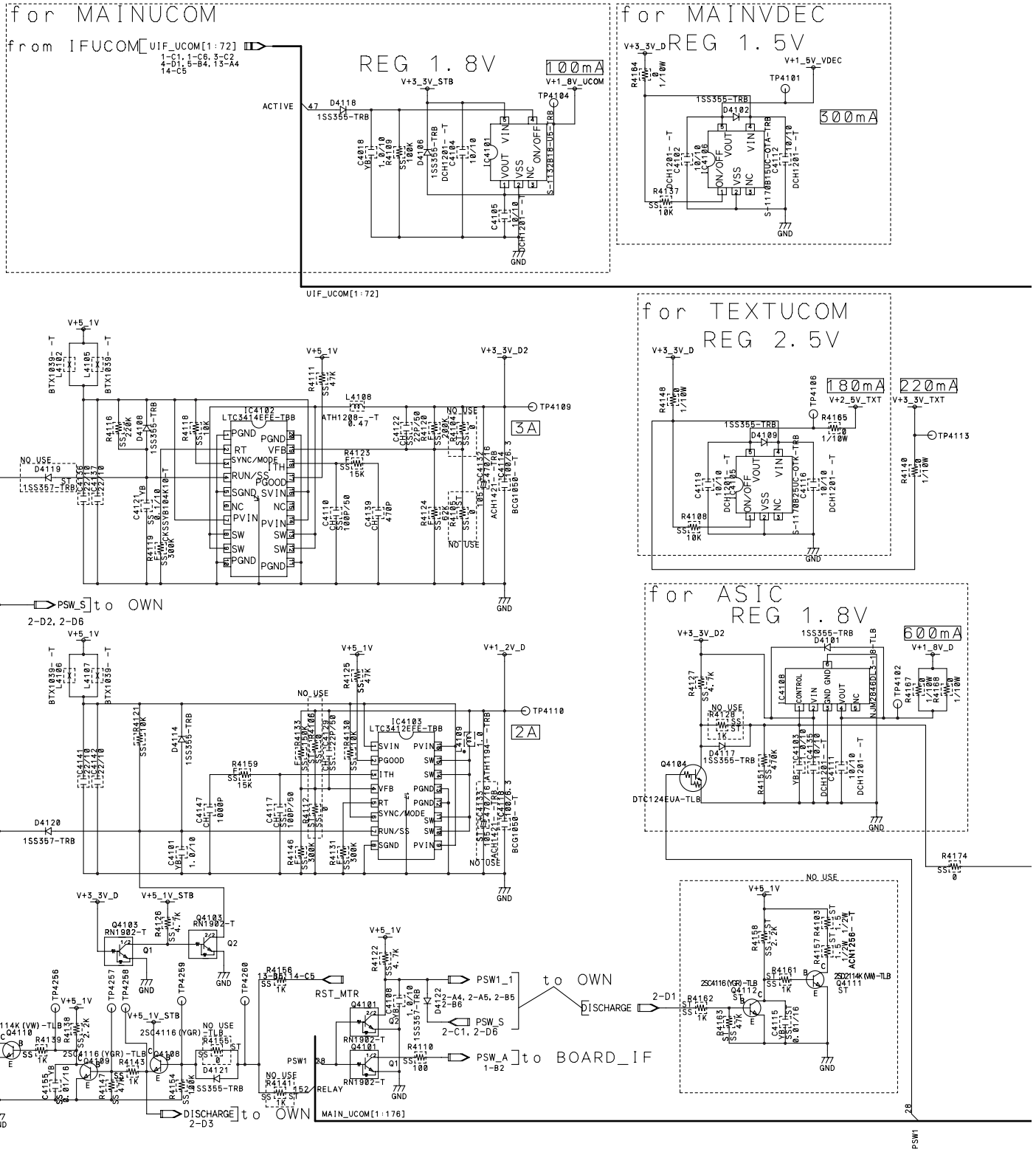


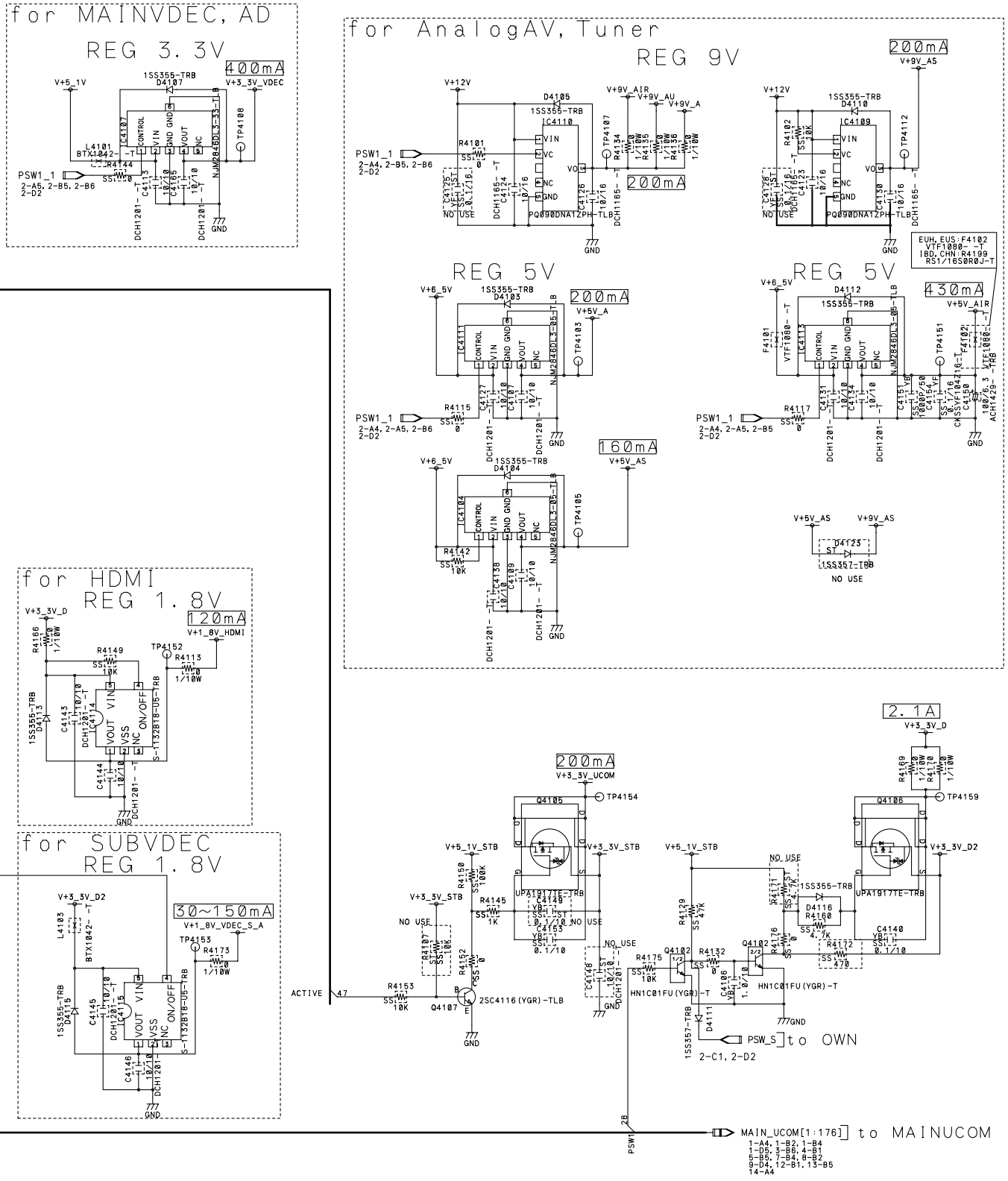
10.2 MAIN ASSY (2/14) [REG 0 BLOCK]

MAIN ASSY (EU/IBD) (2/14)

- POWER_0 BLOCK

NOT USE
: STANDBY

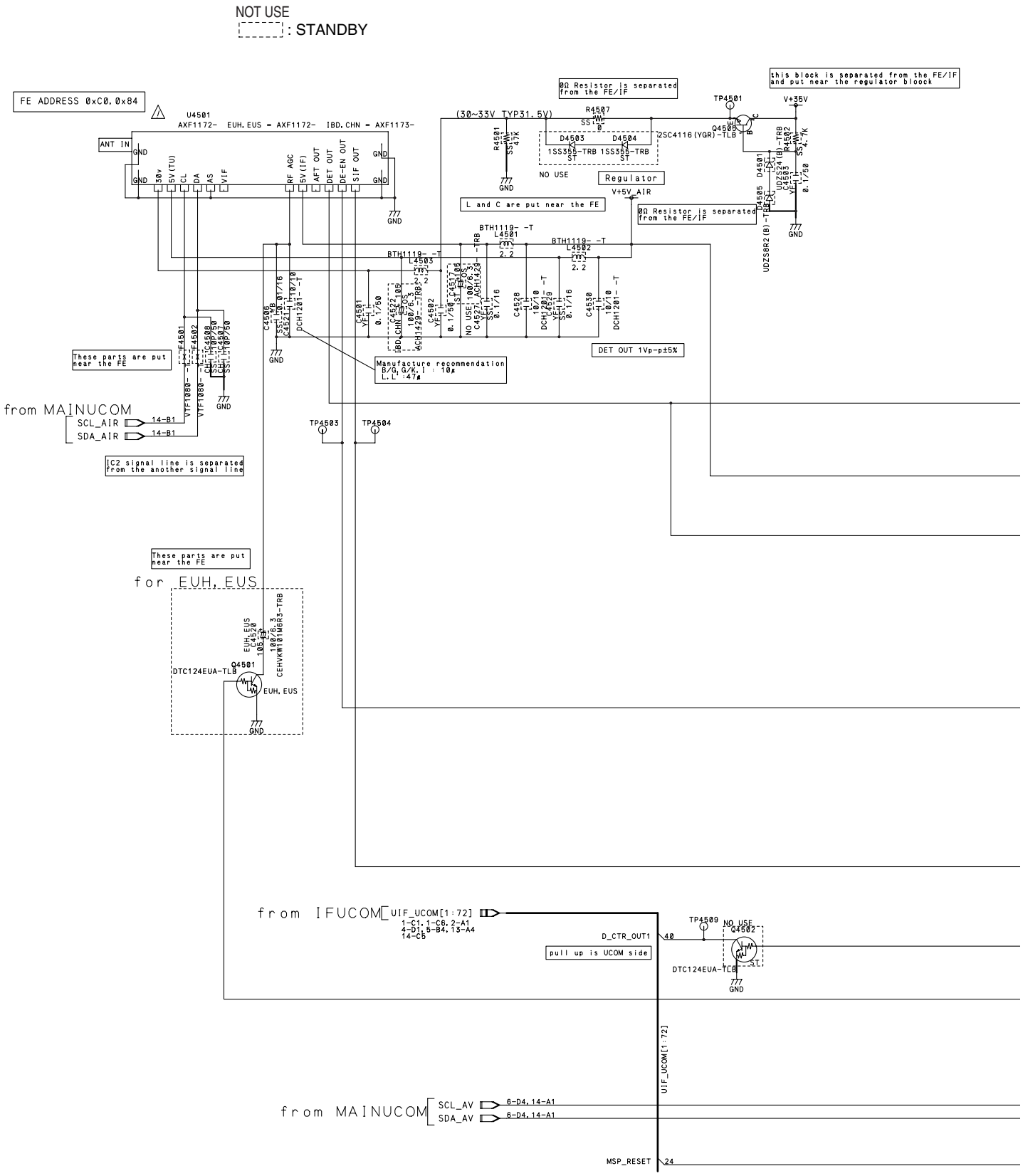


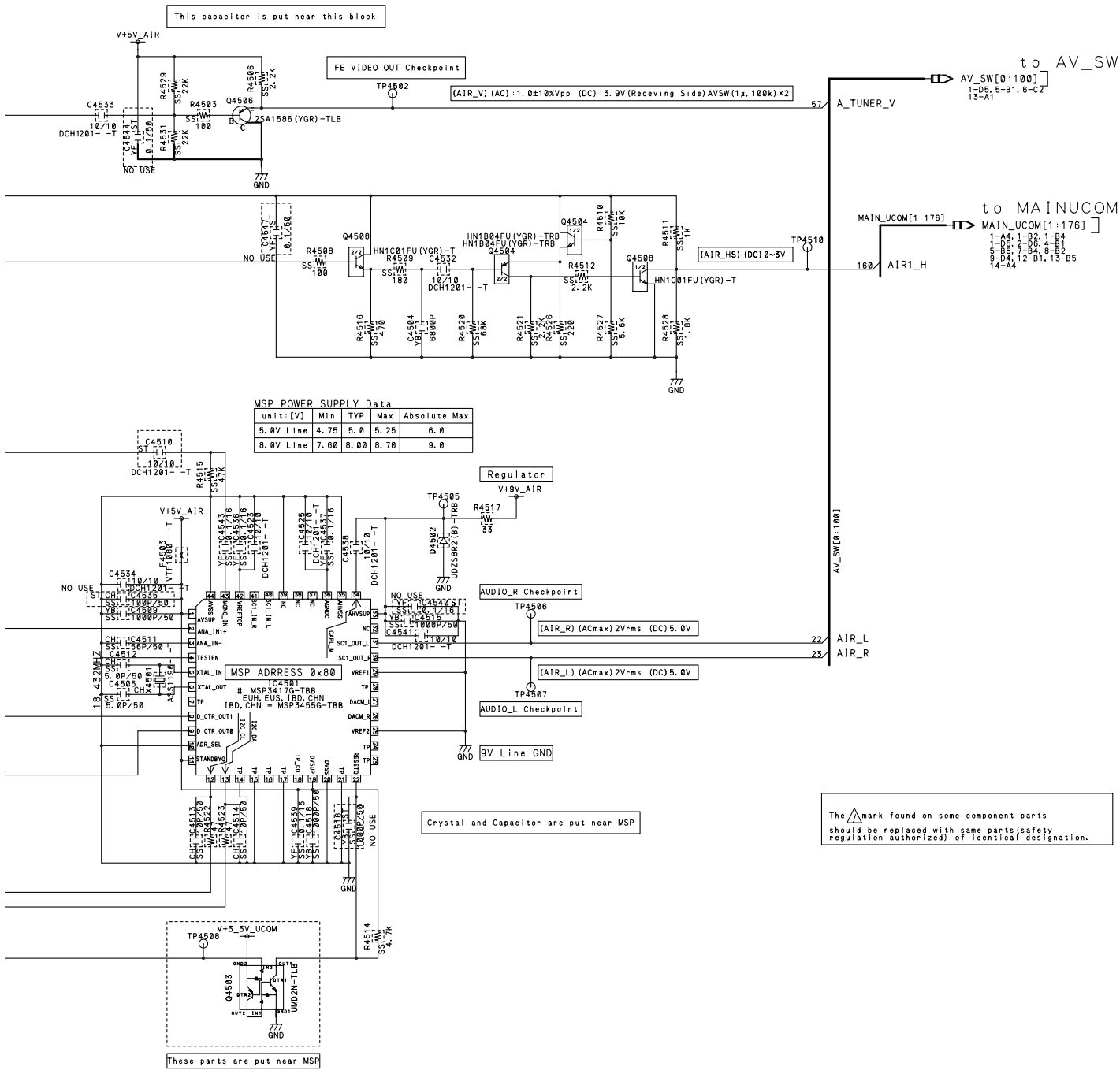

for MAINVDEC, AD
REG 3.3V
400mA
V+5_1V
1SS355-TRB
D4107
V+3_3V_VDEC
L4101
BTX1042-T
R4144
SS 0
PSW1_1
2-A5, 2-B5, 2-B6
2-D2
C4107
C4113
C4165
C4114
TP4108
DCH1201-T
GND
for AnalogAV, Tuner
REG 9V
200mA
V+9V_AS
V+12V
D4105
1SS355-TRB
IC4110
V+9V_AIR
V+9V_AU
V+9V_A
TP4107
R4101
R4134
R4135
R4136
C4125
C4126
C4124
DCH1165-T
PQ090DNA1ZPH-TLB
NO USE
D4110
IC4109
TP4112
R4102
C4123
C4130
EUH, EUS:F4102 VTF1080-T
IBD, CHN:R4199 RS1/16S0R0J-T
REG 5V
V+6_5V
D4103
V+5V_A
TP4103
C4111
C4127
C4110
R4115
NJM2845DL3-05-TLB
REG 5V
430mA
V+5V_AIR
D4112
F4101
VTF1080-T
C4113
TP4151
F4102
C4131
C4134
C4150
C4151
R4117
CMSSYF104J16-T
160mA
V+5V_AS
D4104
TP4105
C4104
C4138
C4109
R4142
10K
V+5V_AS
V+9V_AS
D4125
1SS357-TRB
NO USE
for HDMI
REG 1.8V
120mA
V+3_3V_D
V+1_8V_HDMI
R4166
R4149
R4113
TP4152
1SS355-TRB
D4113
C4143
C4144
IC4114
S-1132B18-U5-TRB
for SUBVDEC
REG 1.8V
30~150mA
V+3_3V_D2
V+1_8V_VDEC_S_A
TP4153
R4173
L4103
BTX1042-T
C4145
C4146
IC4115
1SS355-TRB
D4115
S-1132B18-U5-TRB
2.1A
V+3_3V_D
R4169
R4170
R4171
200mA
V+3_3V_UCOM
TP4154
Q4105
TP4159
Q4106
V+5_1V_STB
V+3_3V_STB
V+3_3V_D2
R4150
R4145
C4149
C4153
UPA1917TE-TRB
NO USE
R4107
R4152
R4153
ACTIVE
47
Q4107
2SC4116(YGR)-TLB
C4148
R4129
R4132
R4175
Q4102
HN1C01FU(YGR)-T
HN1C01FU(YGR)-TR
C4106
D4116
R4160
4.7K
R4176
R4172
470
C4140
D4111
1SS357-TRB
PSW_S
to OWN
2-C1, 2-D2
PSW1
28
MAIN_UCOM[1:176]
to MAINUCOM
1-A4, 1-B2, 1-B4
1-D5, 3-B6, 4-B1
5-B5, 7-B4, 8-B2
9-D4, 12-B1, 13-B5
14-A4
Use Resistor:ACN1268-T(R4157) and two LeadWires:ADX3513-
insted of Resistor:RS1/16SS471J-T(R4172) until the suffix of
MAINPCB is changed to D.

10.3 MAIN ASSY (3/14) [ATUNER BLOCK]

MAIN ASSY (EU/IBD) (3/14)

• ATUNER BLOCK

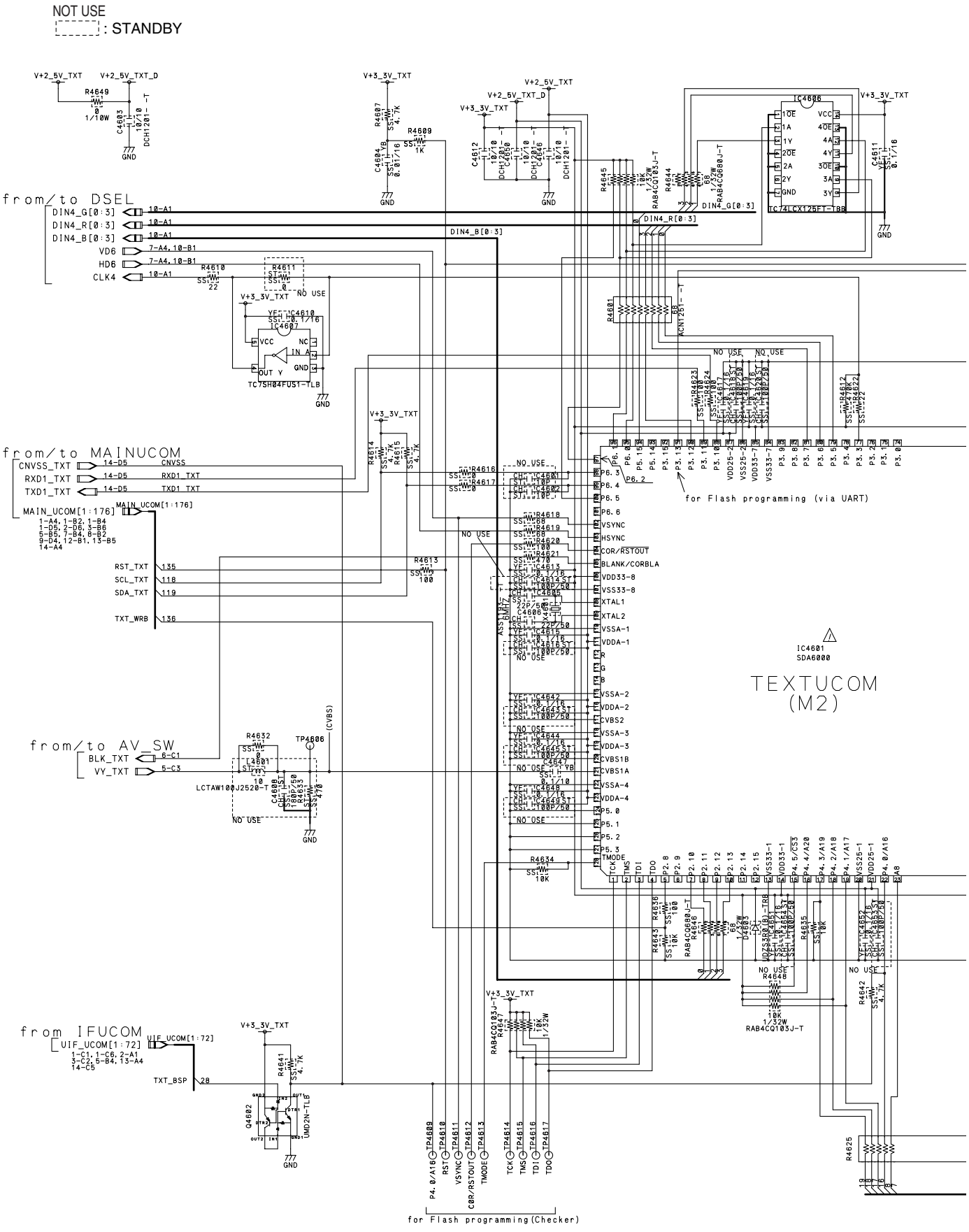


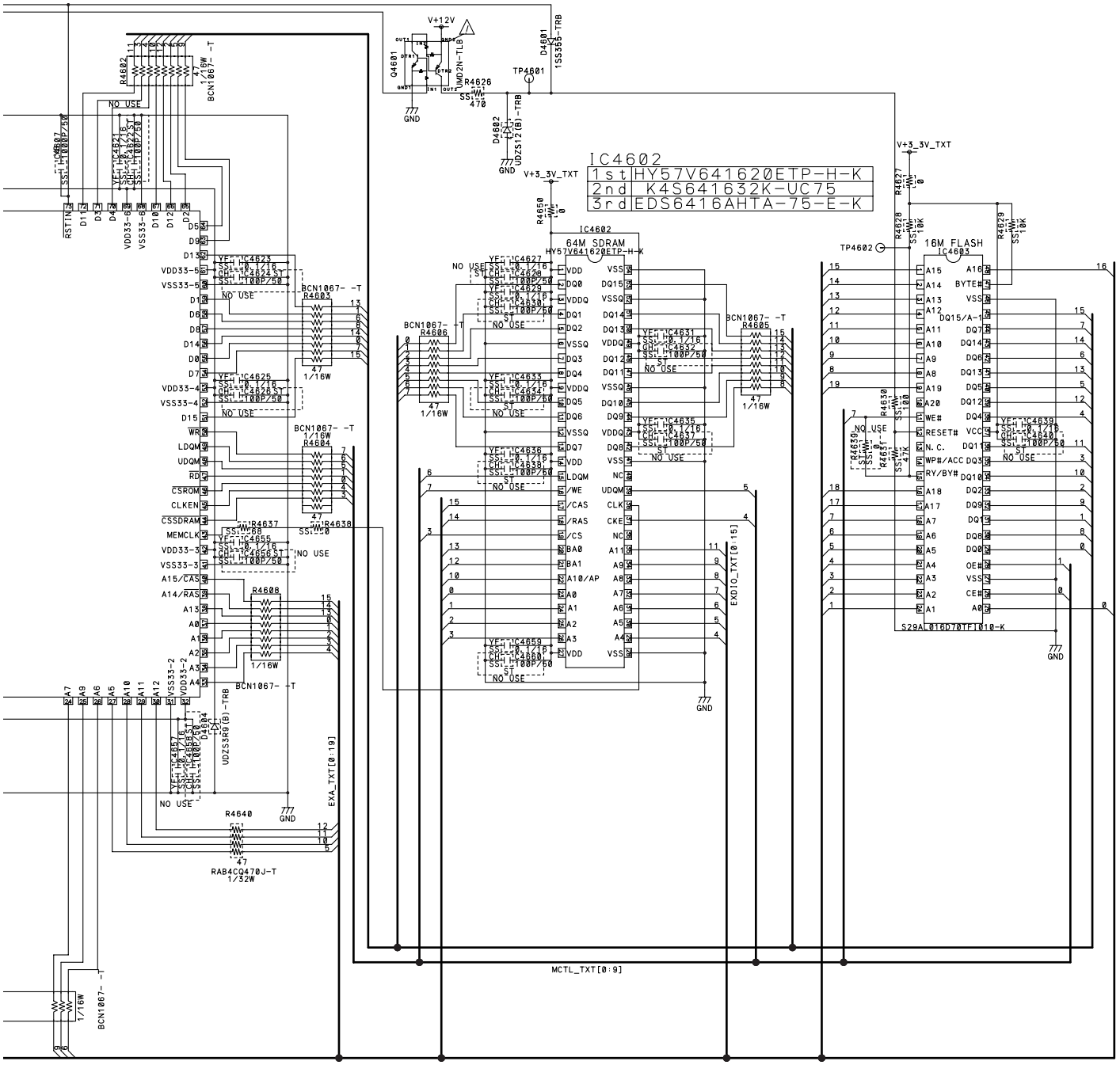

This capacitor is put near this block
V+5V_AIR
FE VIDEO OUT Checkpoint
TP4502
(AIR_V) (AC) : 1.0±10%Vpp (DC) : 3.9V (Receving Side) AVSW (1μ, 100k) ×2
to AV_SW
AV_SW[0:100]
1-D5, 5-B1, 6-C2
13-A1
57
A_TUNER_V
Q4506
2SA1586 (YGR) -TLB
R4503
100
R4529
22K
R4531
22K
R4506
2.2K
C4533
10/10
DCH1201- -T
C4534
0.1/50
NO USE
GND
C4507
0.1/50
R4508
100
Q4508
HN1C01FU (YGR) -T
R4509
180
C4532
10/10
DCH1201- -T
Q4504
HN1B04FU (YGR) -TRB
R4510
10K
R4511
1K
R4512
2.2K
(AIR_HS) (DC) 0~3V
TP4510
MAIN_UCOM[1:176]
to MAINUCOM
1-A4, 1-B2, 1-B4
1-D5, 2-D6, 4-B1
5-B5, 7-B4, 8-B2
9-D4, 12-B1, 13-B5
14-A4
160
AIR1_H
R4516
470
C4504
6800P
R4520
68K
R4521
2.2K
R4526
220
R4527
5.6K
R4528
1.8K
MSP POWER SUPPLY Data
unit: [V] | Min | TYP | Max | Absolute Max
5.0V Line | 4.75 | 5.0 | 5.25 | 6.0
8.0V Line | 7.60 | 8.00 | 8.70 | 9.0
C4510
10/10
DCH1201- -T
R4515
4.7K
Regulator
V+9V_AIR
TP4505
R4517
33
D4502
UDZS8R2 (B) -TR8
F4503
VTF1008- -T
C4534
10/10
DCH1201- -T
C4535
1000P/50
C4536
1000P/50
C4512
56P/50
C4505
5.0P/50
X4501
18.432MHZ
IC4501
MSP3417G-TBB
EUH, EUS, IBD, CHN
IBD, CHN = MSP3455G-TBB
MSP ADRRESS 0x80
AUDIO_R Checkpoint
TP4506
(AIR_R) (ACmax) 2Vrms (DC) 5.0V
22
AIR_L
23
AIR_R
(AIR_L) (ACmax) 2Vrms (DC) 5.0V
TP4507
AUDIO_L Checkpoint
9V Line GND
GND
AV_SW[0:100]
Crystal and Capacitor are put near MSP
The △ mark found on some component parts should be replaced with same parts (safety regulation authorized) of identical designation.
V+3_3V_UCOM
TP4508
Q4503
UMD2N-TLB
R4514
4.7K
These parts are put near MSP

10.4 MAIN ASSY (4/14) [TEXTUCOM BLOCK]

MAIN ASSY (EU/IBD) (4/14)

• TEXTUCOM BLOCK

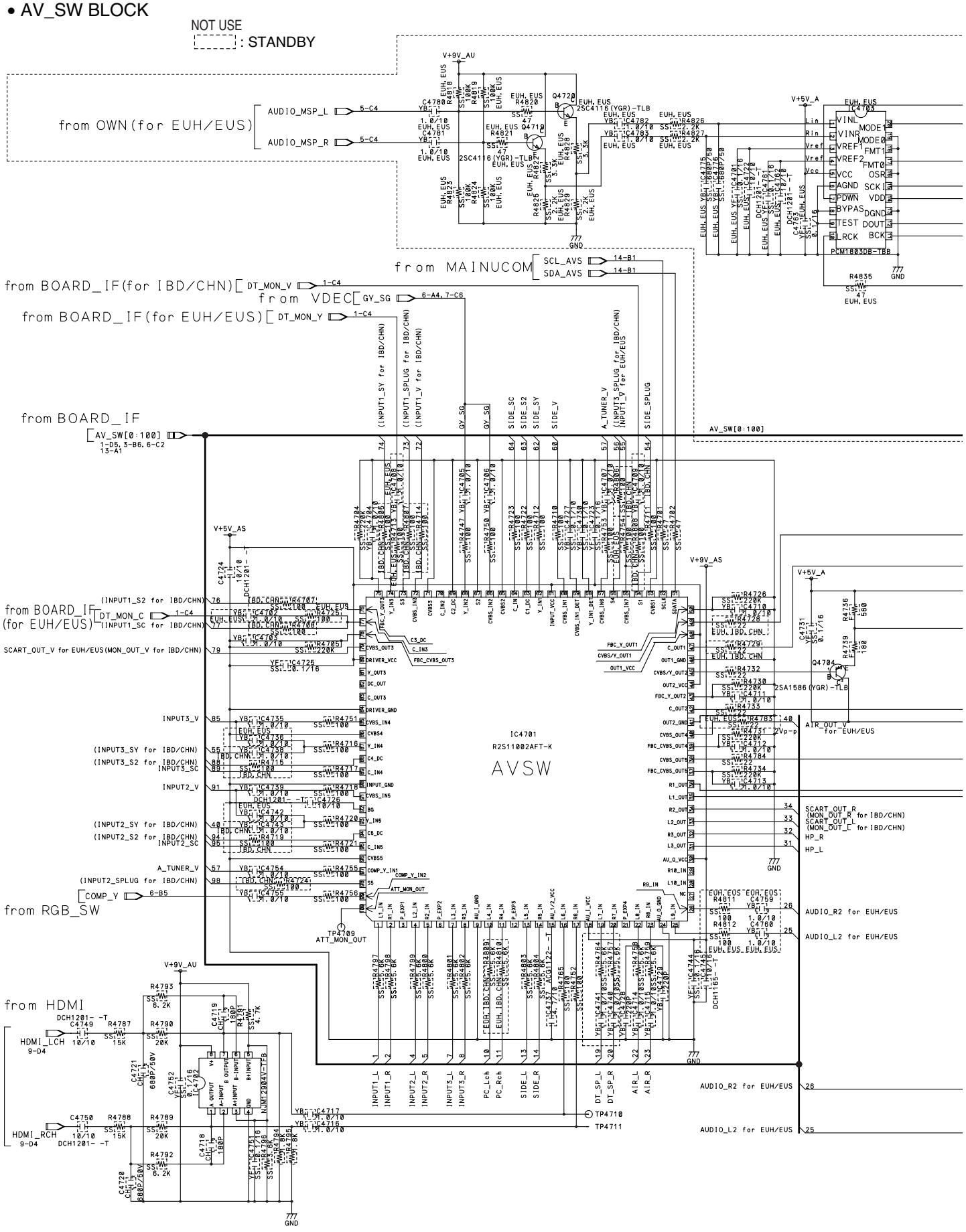


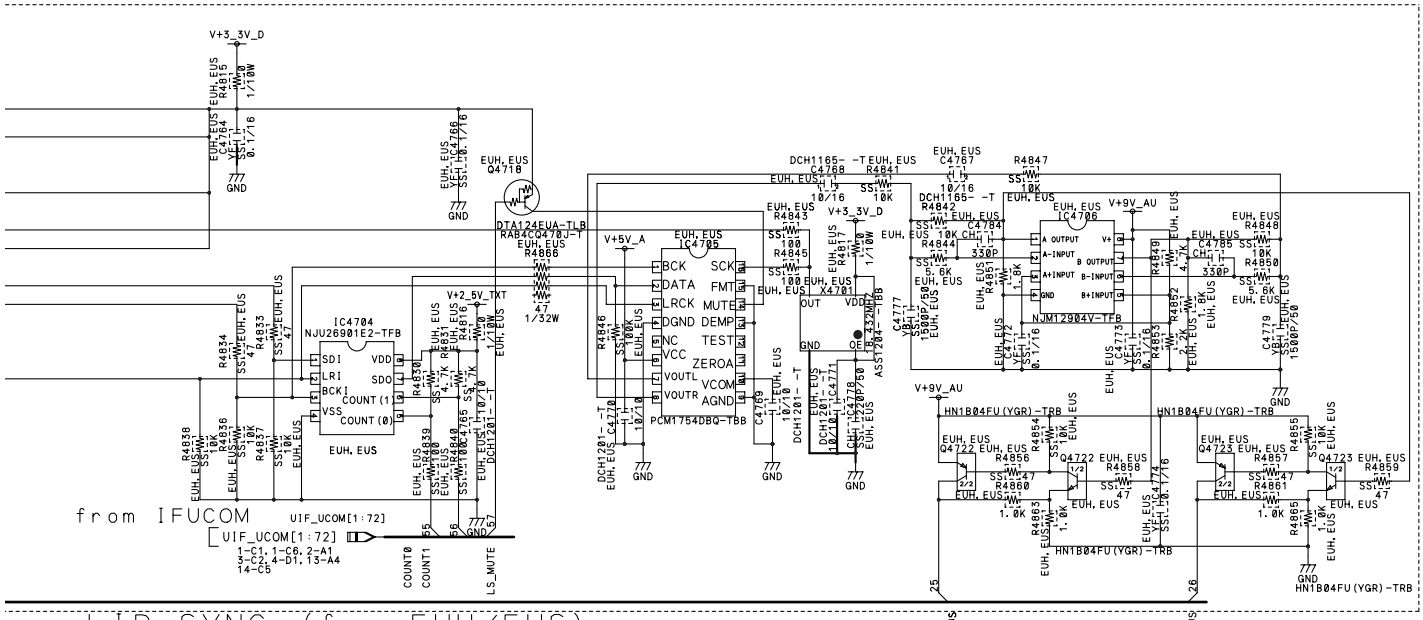

IC4602
1st HY57V641620ETP-H-K
2nd K4S641632K-UC75
3rd EDS6416AHTA-75-E-K
64M SDRAM
HY57V641620ETP-H-K
16M FLASH
IC4603
S29AL016D70TFI010-K
V+12V
V+3_3V_TXT
GND
TP4601
TP4602
MCTL_TXT[0:9]
EXA_TXT[0:19]
EXDIO_TXT[0:15]
NO USE

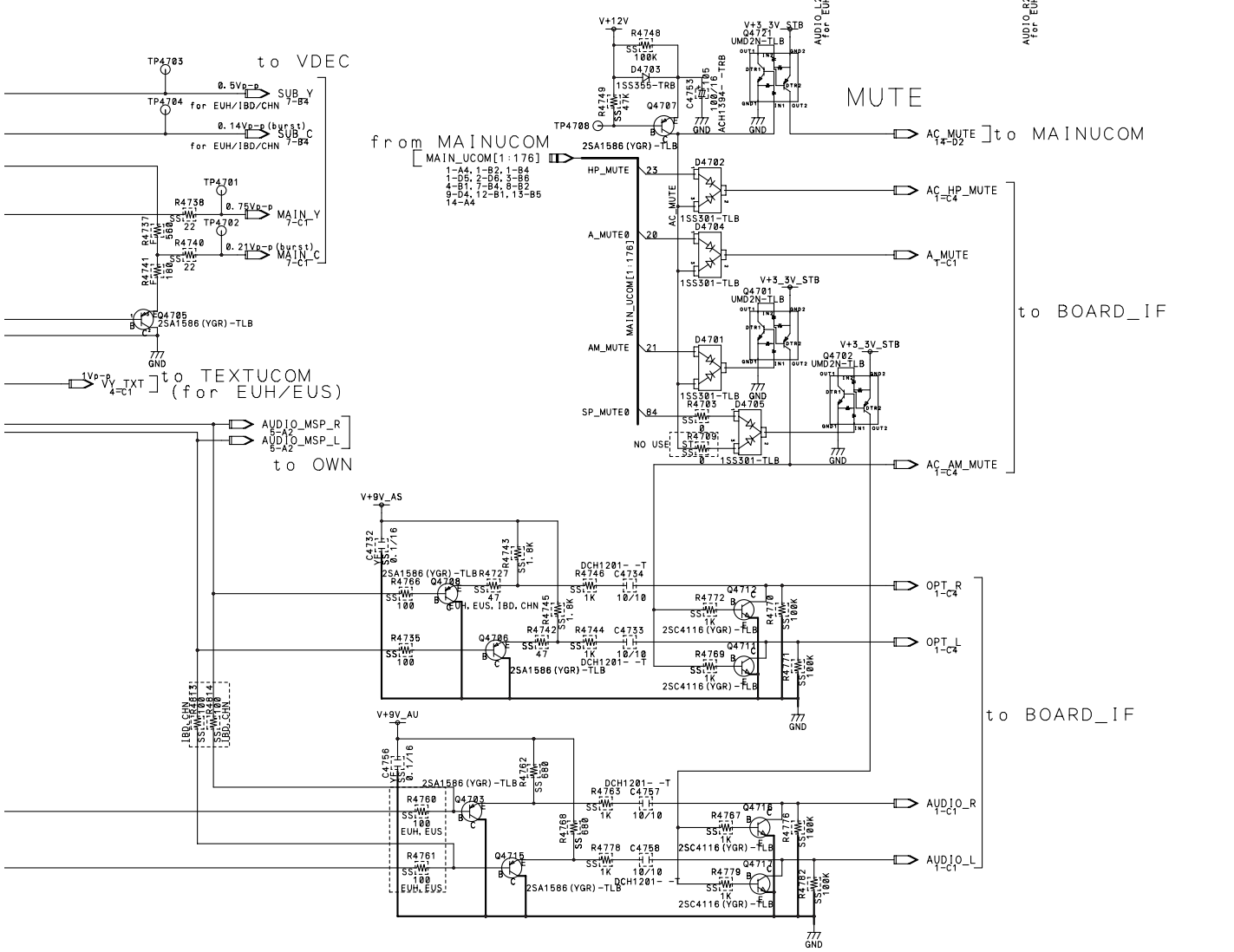
10.5 MAIN ASSY (5/14) [AV SW BLOCK]

MAIN ASSY (EU/IBD) (5/14)

• AV_SW BLOCK



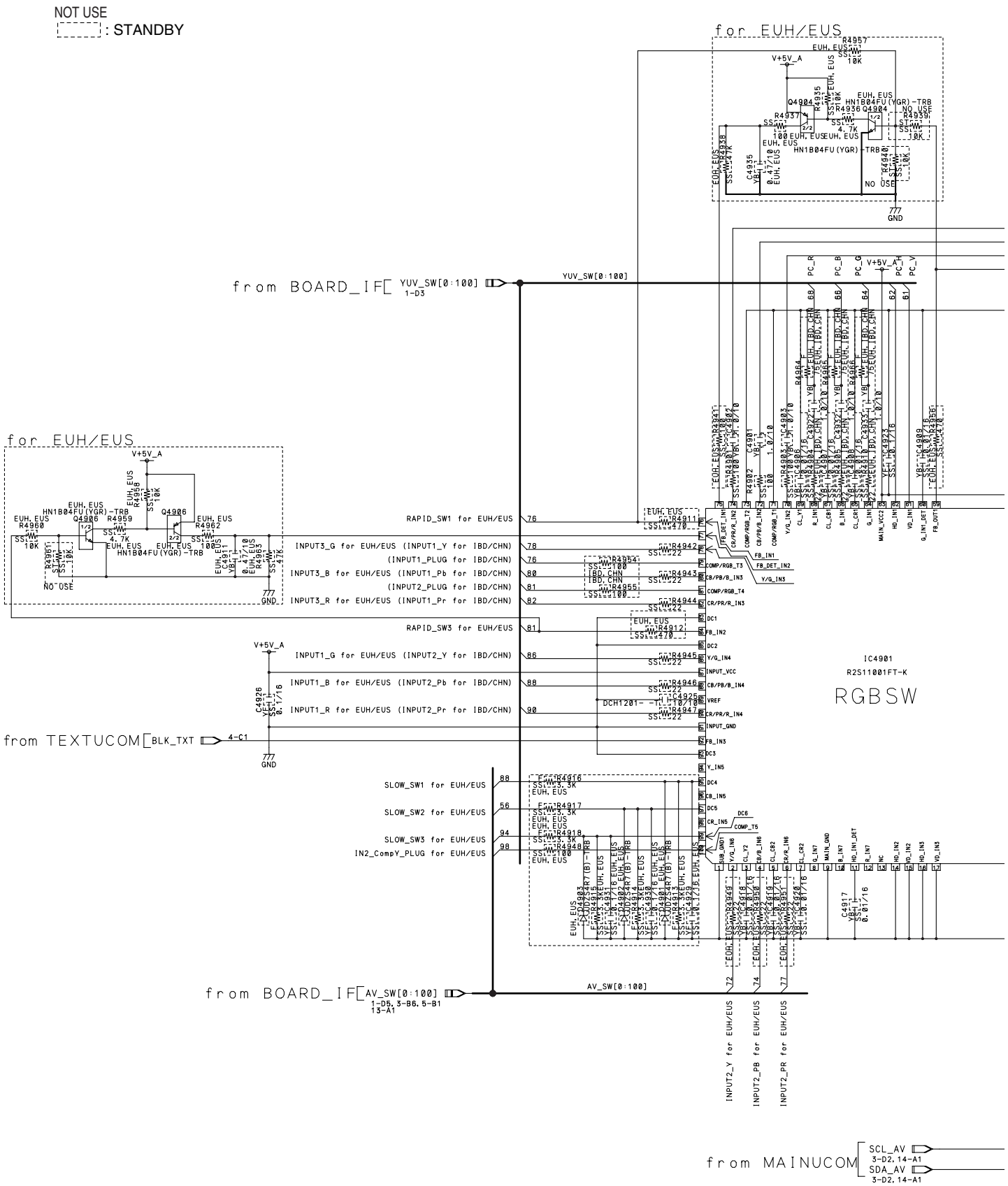

V+3_3V_D
Q4710
DTA124EUA-TLB
V+5V_A
IC4705
PCM1754DBQ-TBB
IC4704
NJU26901E2-TFB
SDI
LRI
BCKJ
VSS
VDD
SDO
COUNT (1)
COUNT (0)
V+2_5V_TXT
IC4706
NJM12904V-TFB
V+9V_AU
X4701
ASS1204-18B
IC4707
HN1B04FU(YGR)-TRB
from IFUCOM
UIF_UCOM[1:72]
1-C1, 1-C6, 2-A1
3-C2, 4-D1, 13-A4
14-C5
COUNT0
COUNT1
LS_MUTE
LIP SYNC (for EUH/EUS)
AUDIO_L2
for EUH/EUS
AUDIO_R2
for EUH/EUS

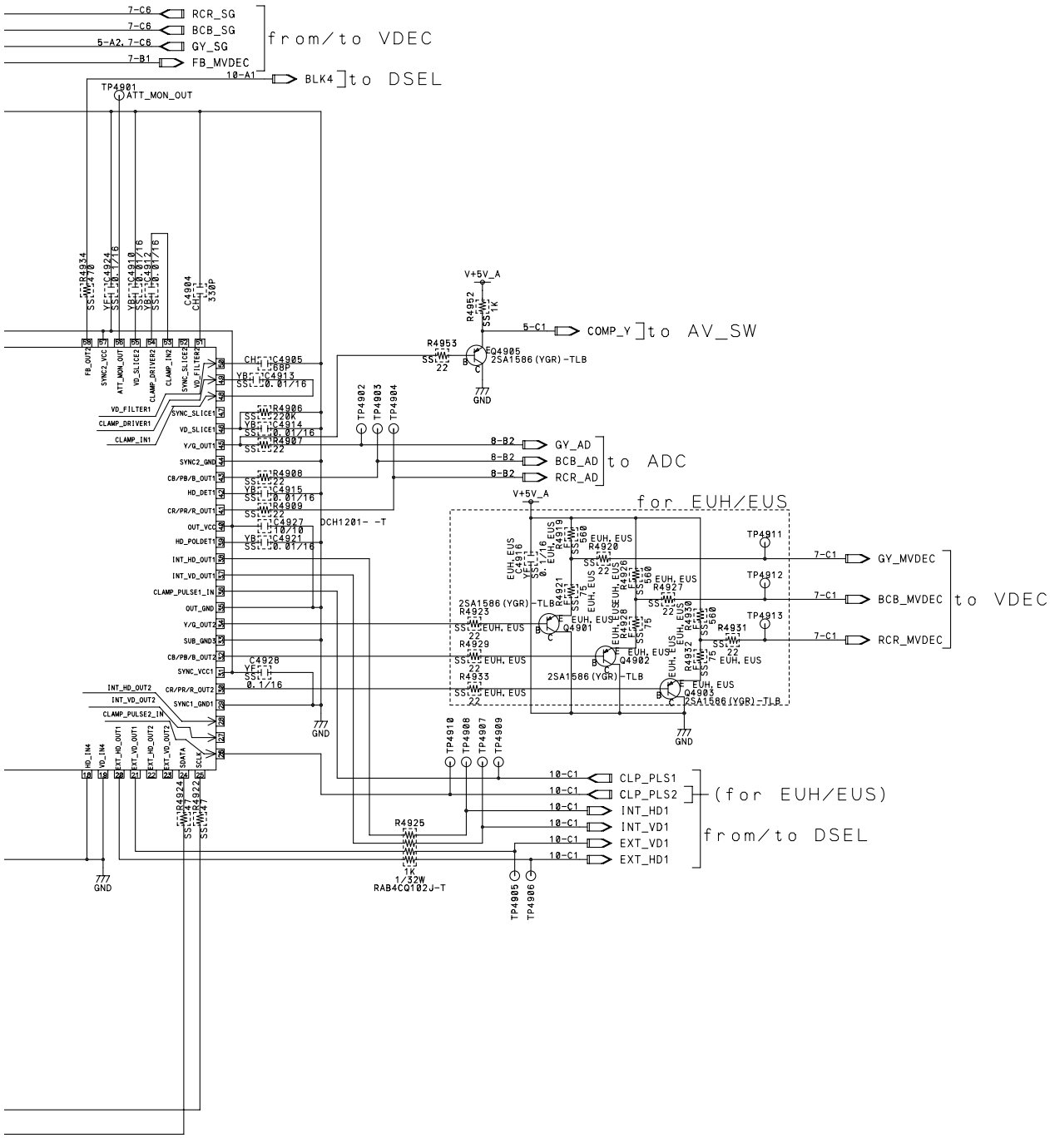

to VDEC
SUB_Y
for EUH/IBD/CHN
SUB_C
for EUH/IBD/CHN
MAIN_Y
MAIN_C
Q4705
2SA1586(YGR)-TLB
to TEXTUCOM
(for EUH/EUS)
V+12V
V+3_3V_STB
Q4721
UMD2N-TLB
MUTE
from MAINUCOM
MAIN_UCOM[1:176]
1-A4, 1-B2, 1-B4
1-D5, 2-D6, 3-B6
4-B1, 7-B4, 8-B2
9-D4, 12-B1, 13-B5
14-A4
HP_MUTE
A_MUTE
AM_MUTE
SP_MUTE
NO USE
D4702
D4704
D4701
D4705
1SS301-TLB
AC_MUTE
14-D2
to MAINUCOM
AC_HP_MUTE
1-C4
A_MUTE
1-C1
AC_AM_MUTE
1-C4
to BOARD_IF
AUDIO_MSP_R
AUDIO_MSP_L
to OWN
V+9V_AS
Q4708
Q4706
Q4703
Q4707
Q4712
Q4711
Q4715
Q4716
2SC4116(YGR)-FLB
OPT_R
1-C4
OPT_L
1-C4
AUDIO_R
1-C1
AUDIO_L
1-C1
IBD_CHN
EUH, EUS
DCH1201- -T

10.6 MAIN ASSY (6/14) [RGB SW BLOCK]

MAIN ASSY (EU/IBD) (6/14)

• RGB_SW BLOCK




7-C6 RCR_SG
7-C6 BCB_SG
5-A2, 7-C6 GY_SG
7-B1 FB_MVDEC
from/to VDEC
10-A1 BLK4
to DSEL
TP4901
ATT_MON_OUT
5-C1 COMP_Y
to AV_SW
V+5V_A
Q4905
2SA1586(YGR)-TLB
8-B2 GY_AD
8-B2 BCB_AD
8-B2 RCR_AD
to ADC
for EUH/EUS
DCH1201- -T
7-C1 GY_MVDEC
7-C1 BCB_MVDEC
7-C1 RCR_MVDEC
to VDEC
Q4901
Q4902
Q4903
10-C1 CLP_PLS1
10-C1 CLP_PLS2
(for EUH/EUS)
10-C1 INT_HD1
10-C1 INT_VD1
10-C1 EXT_VD1
10-C1 EXT_HD1
from/to DSEL
R4925
1K
1/32W
RAB4CQ102J-T
GND

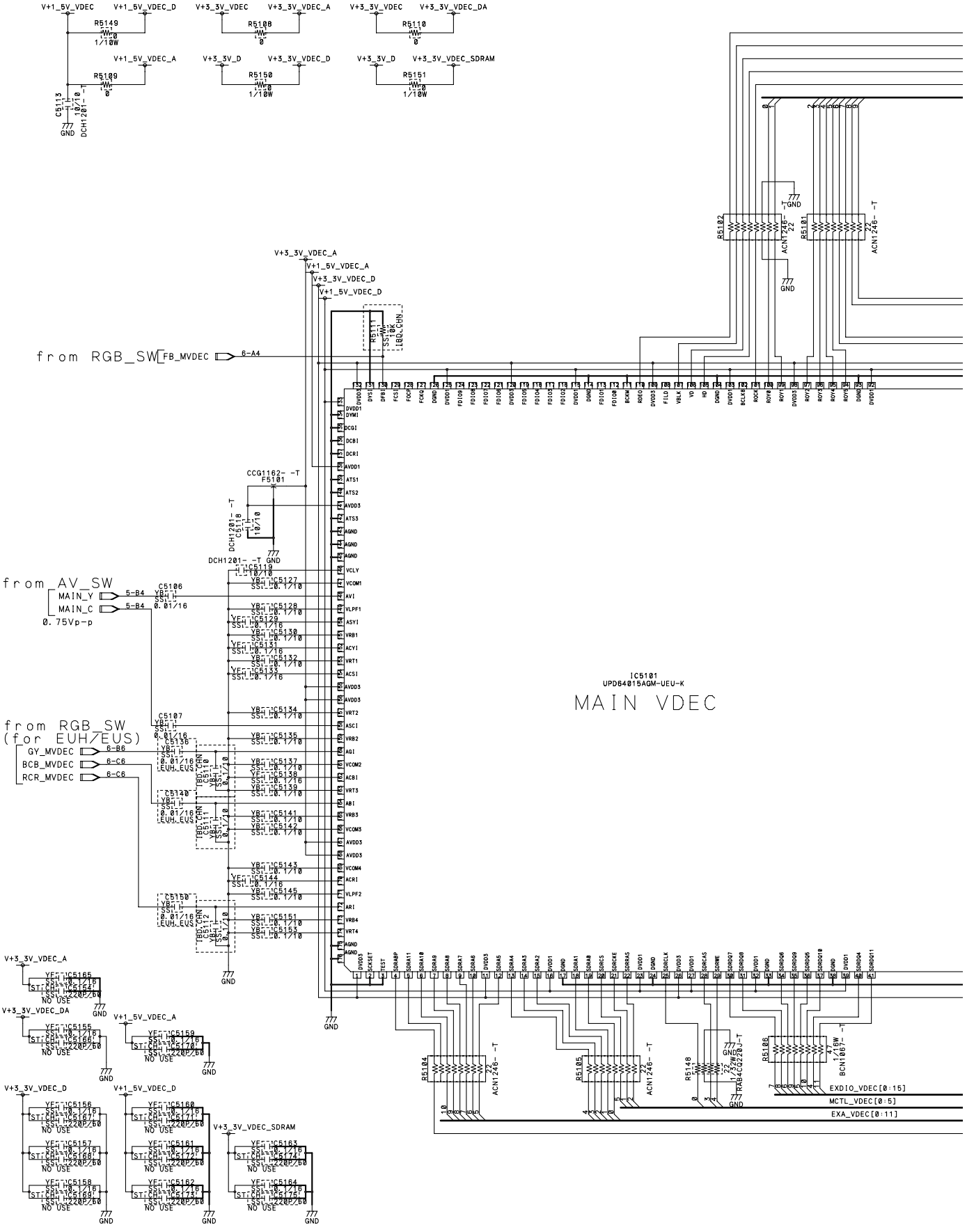
10.7 MAIN ASSY (7/14) [VDEC BLOCK]

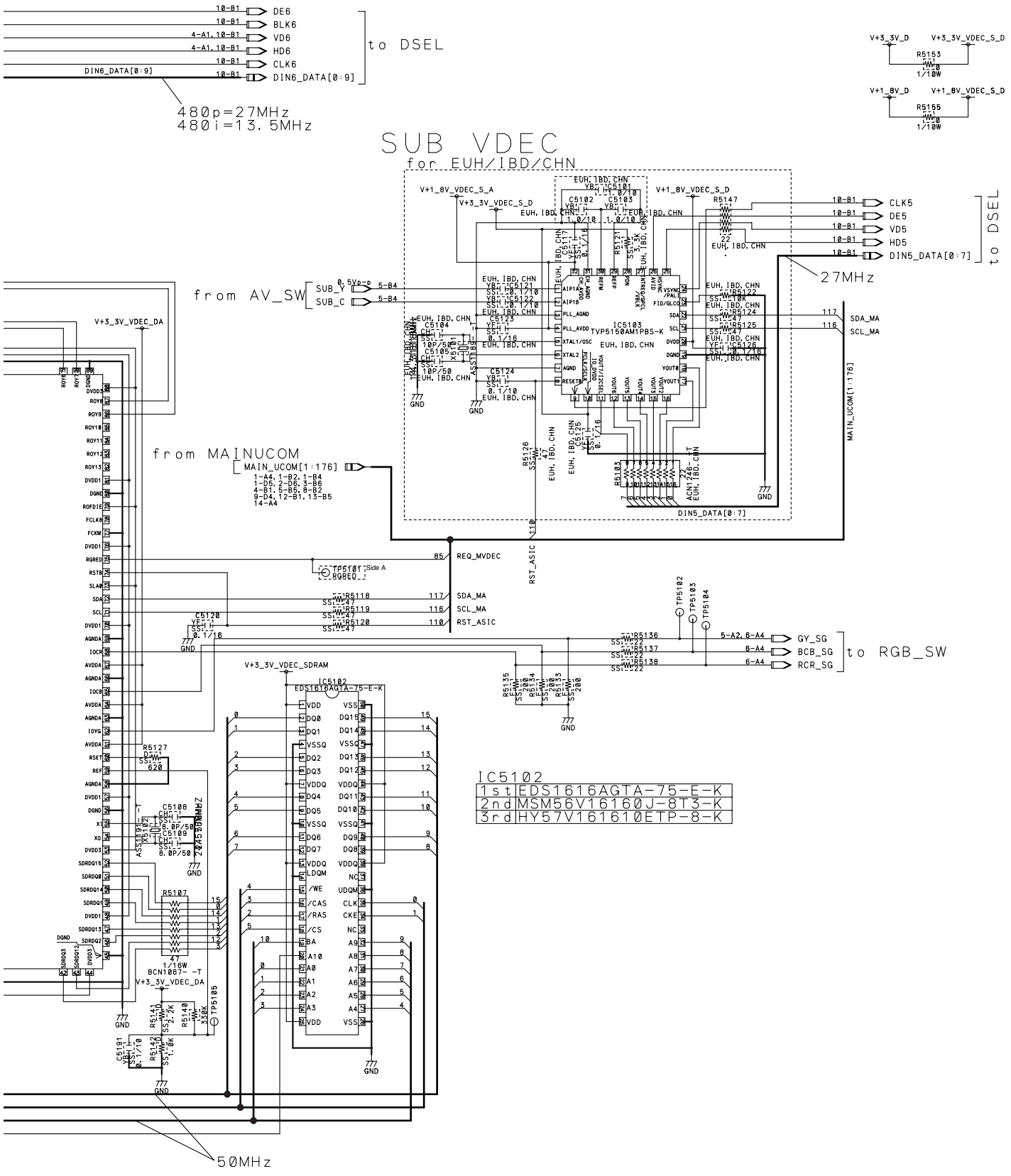
MAIN ASSY (EU/IBD) (7/14)

• VDEC BLOCK

NOT USE

[ ] : STANDBY



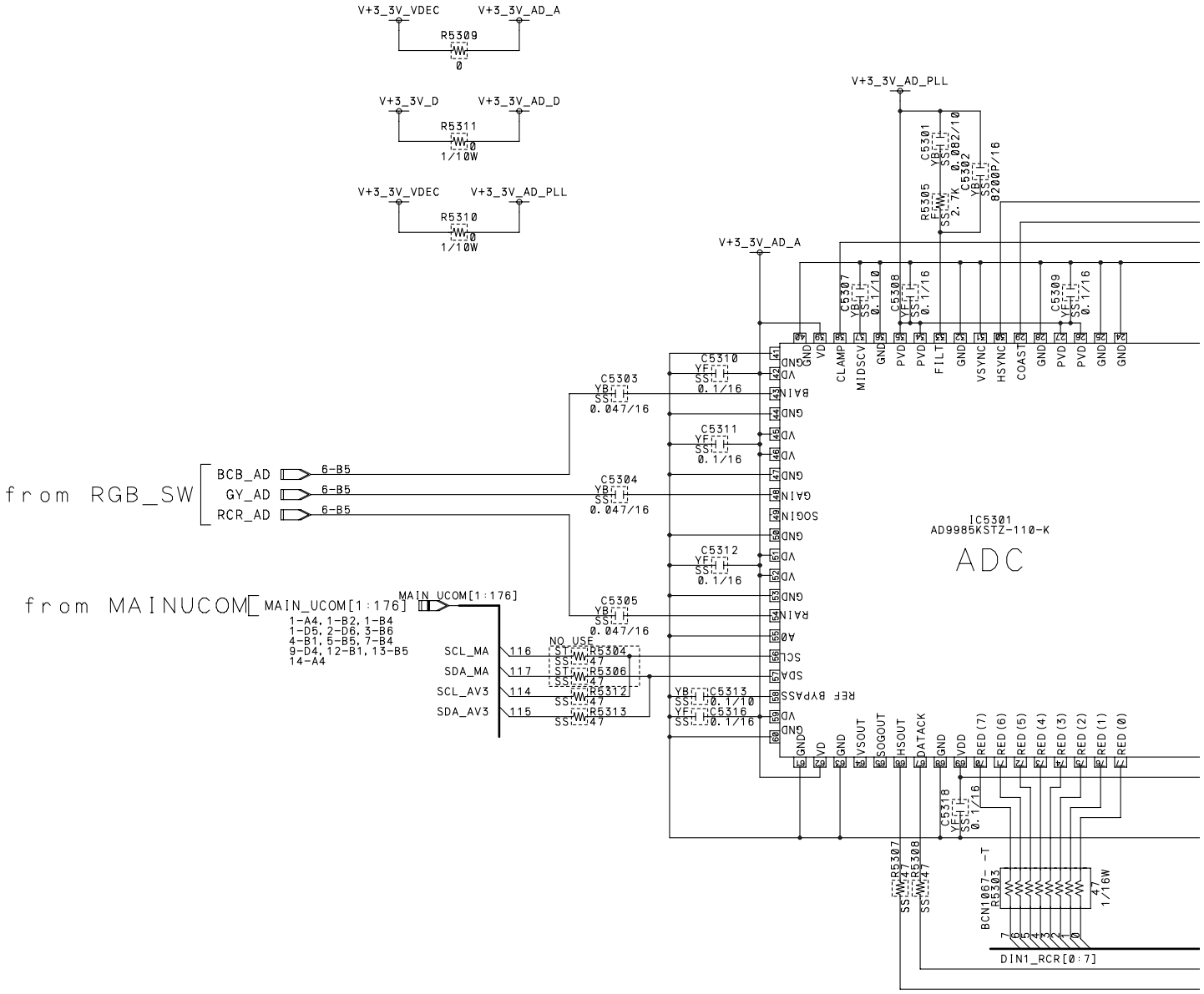

SUB VDEC
for EUH/IBD/CHN
to DSEL
DE6
BLK6
VD6
HD6
CLK6
DIN6_DATA[0:9]
480p=27MHz
480i=13.5MHz
from AV_SW
SUB_Y
SUB_C
from MAINUCOM
MAIN_UCOM[1:176]
27MHz
50MHz
REQ_MVDEC
RST_ASIC
SDA_MA
SCL_MA
to RGB_SW
GY_SG
BCB_SG
RCR_SG
CLK5
DE5
VD5
HD5
DIN5_DATA[0:7]
IC5102
EDS1616AGTA-75-E-K
IC5103
TVP5150AM1PBS-K
1st EDS1616AGTA-75-E-K
2nd MSM56V16160J-8T3-K
3rd HY57V161610ETP-8-K

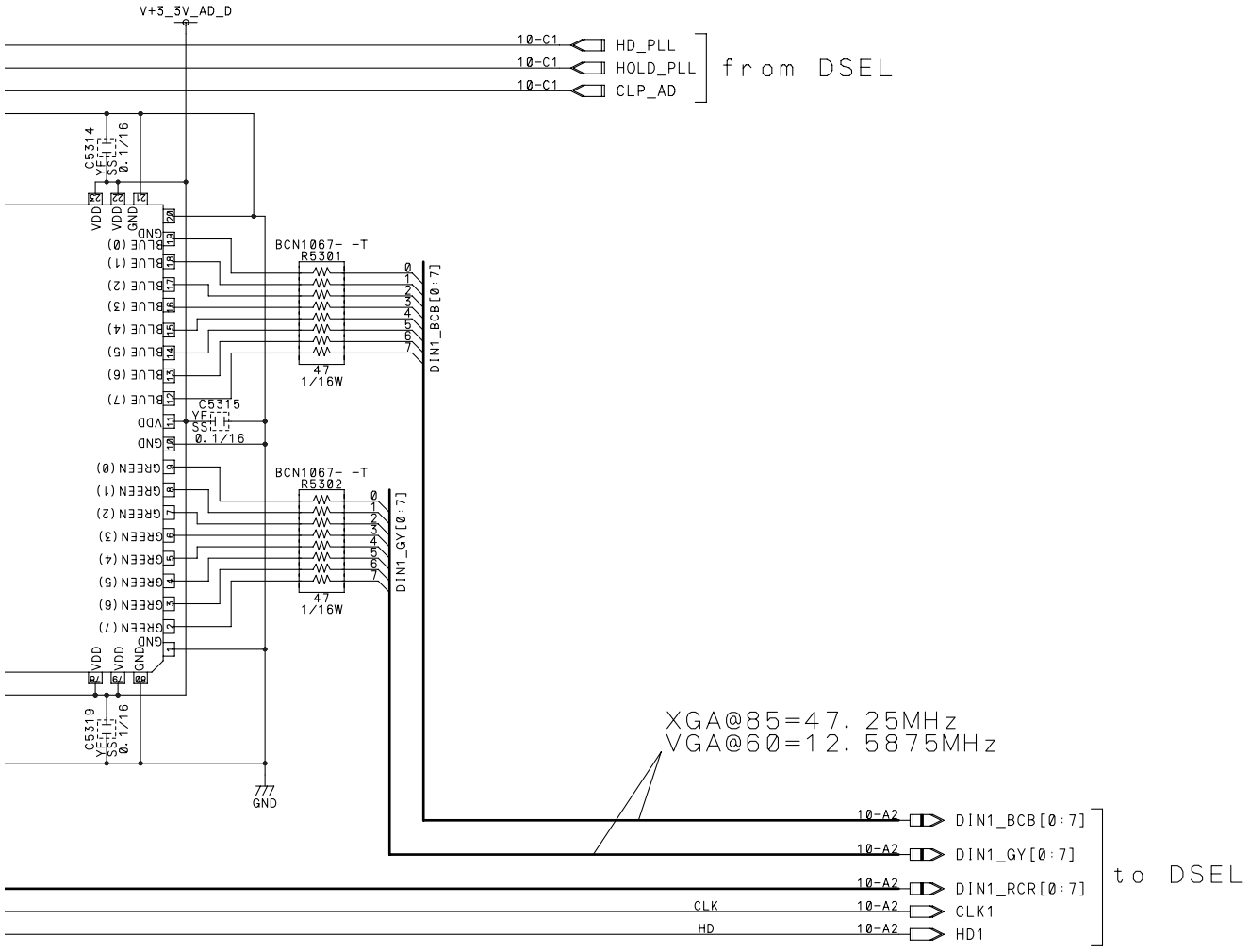
10.8 MAIN ASSY (8/14) [ADC BLOCK]

MAIN ASSY (EU/IBD) (8/14)

• ADC BLOCK

NOT USE
[ ] : STANDBY

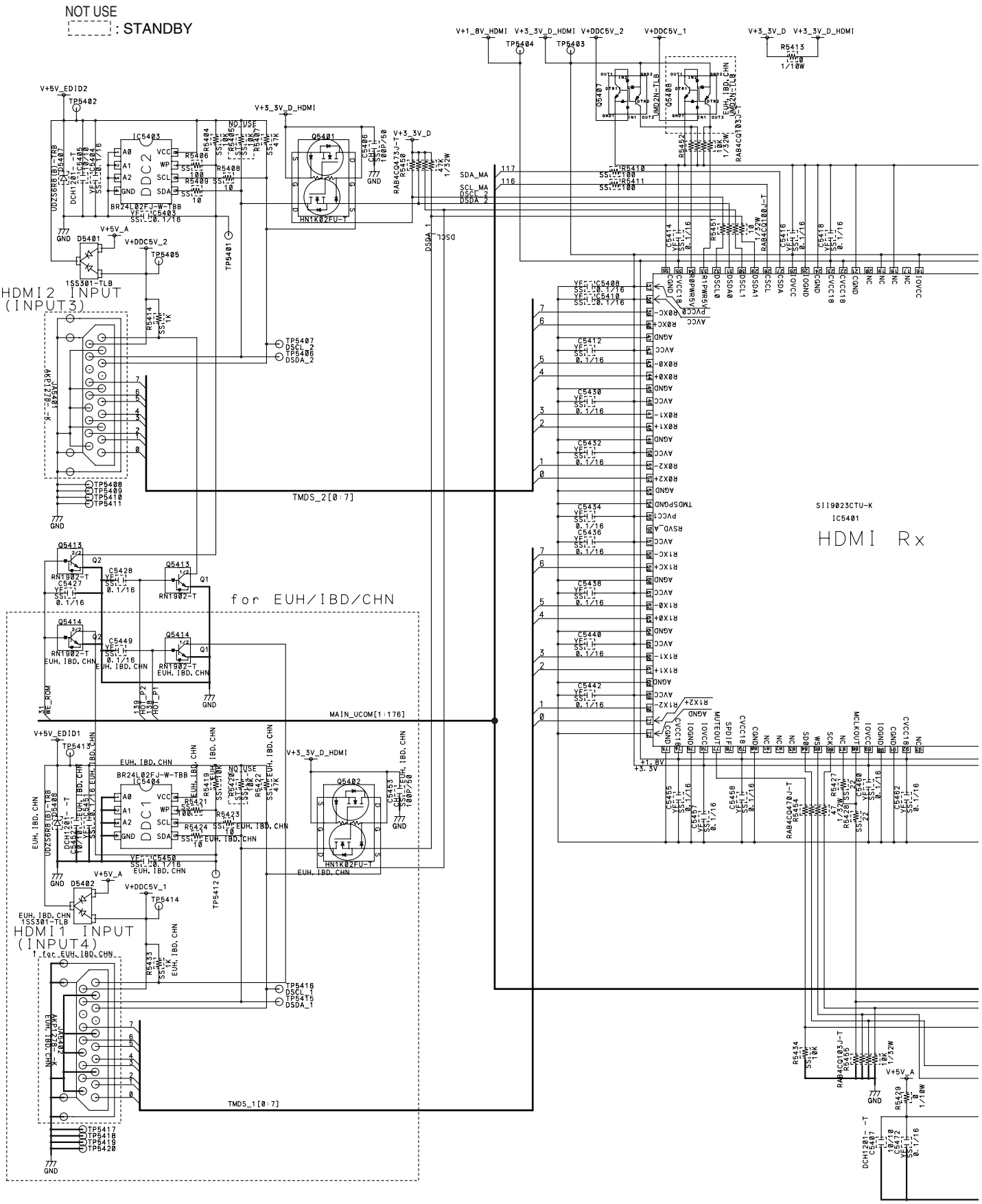


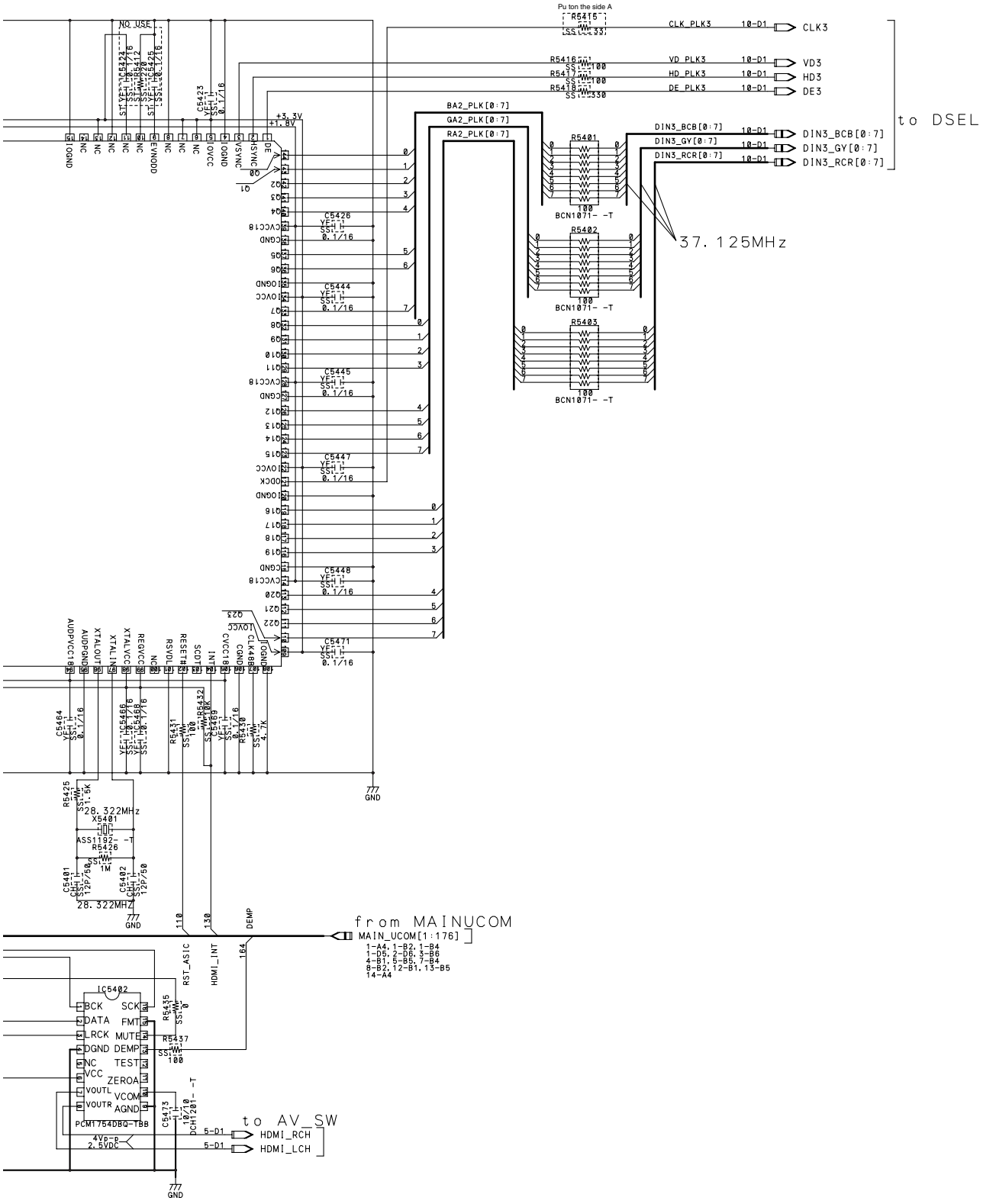

V+3_3V_AD_D
10-C1
HD_PLL
HOLD_PLL
CLP_AD
from DSEL
C5314
YFFH
SSH
0.1/16
VDD
VDD
GND
BLUE(0)
BLUE(1)
BLUE(2)
BLUE(3)
BLUE(4)
BLUE(5)
BLUE(6)
BLUE(7)
BCN1067- -T
R5301
47
1/16W
DIN1_BCB[0:7]
C5315
YFFH
SSH
0.1/16
GREEN(0)
GREEN(1)
GREEN(2)
GREEN(3)
GREEN(4)
GREEN(5)
GREEN(6)
GREEN(7)
BCN1067- -T
R5302
47
1/16W
DIN1_GY[0:7]
C5319
YFFH
SSH
0.1/16
777
GND
XGA@85=47.25MHz
VGA@60=12.5875MHz
10-A2
DIN1_BCB[0:7]
DIN1_GY[0:7]
DIN1_RCR[0:7]
CLK
CLK1
HD
HD1
to DSEL

10.9 MAIN ASSY (9/14) [HDMI BLOCK]

MAIN ASSY (EU/IBD) (9/14)

• HDMI BLOCK

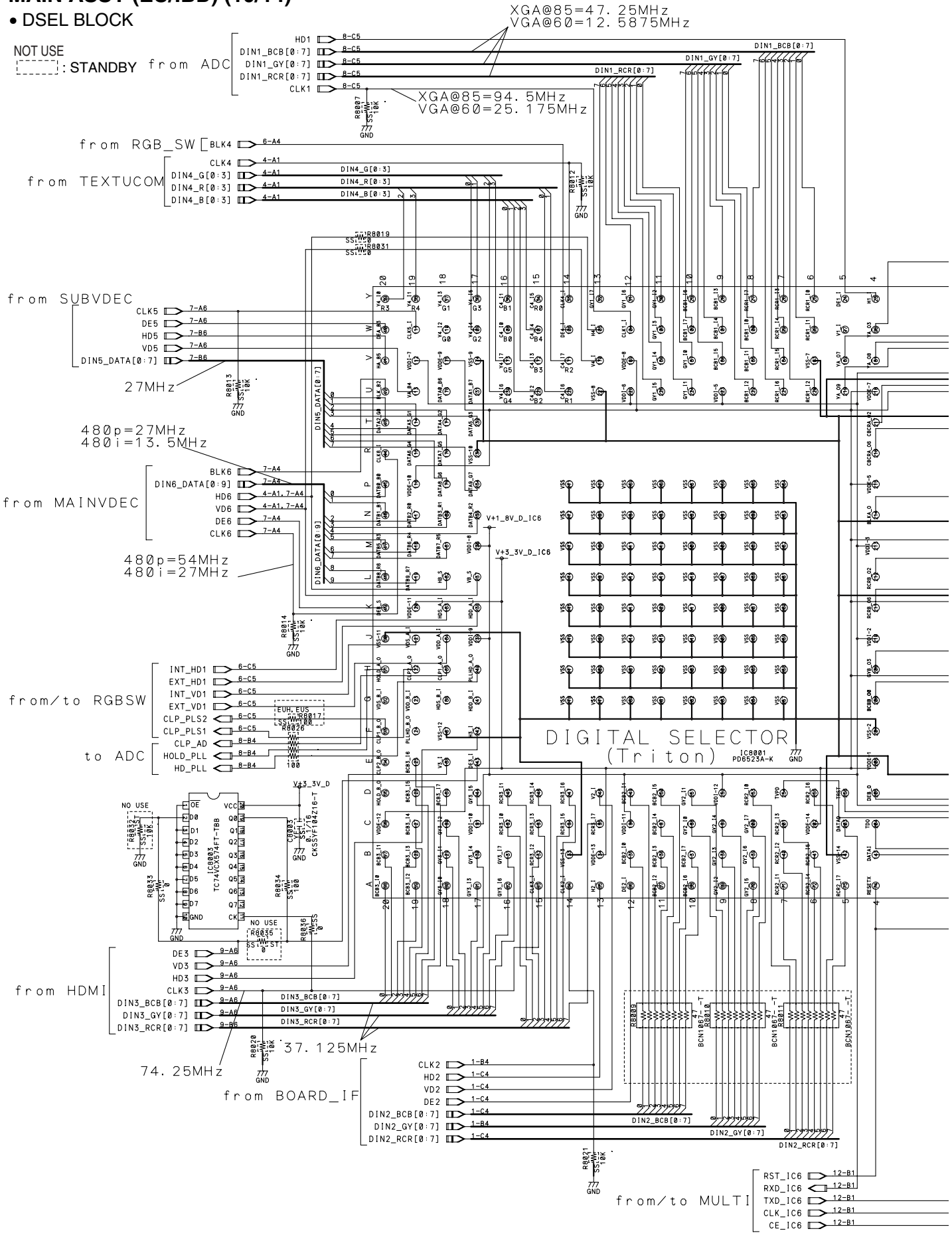


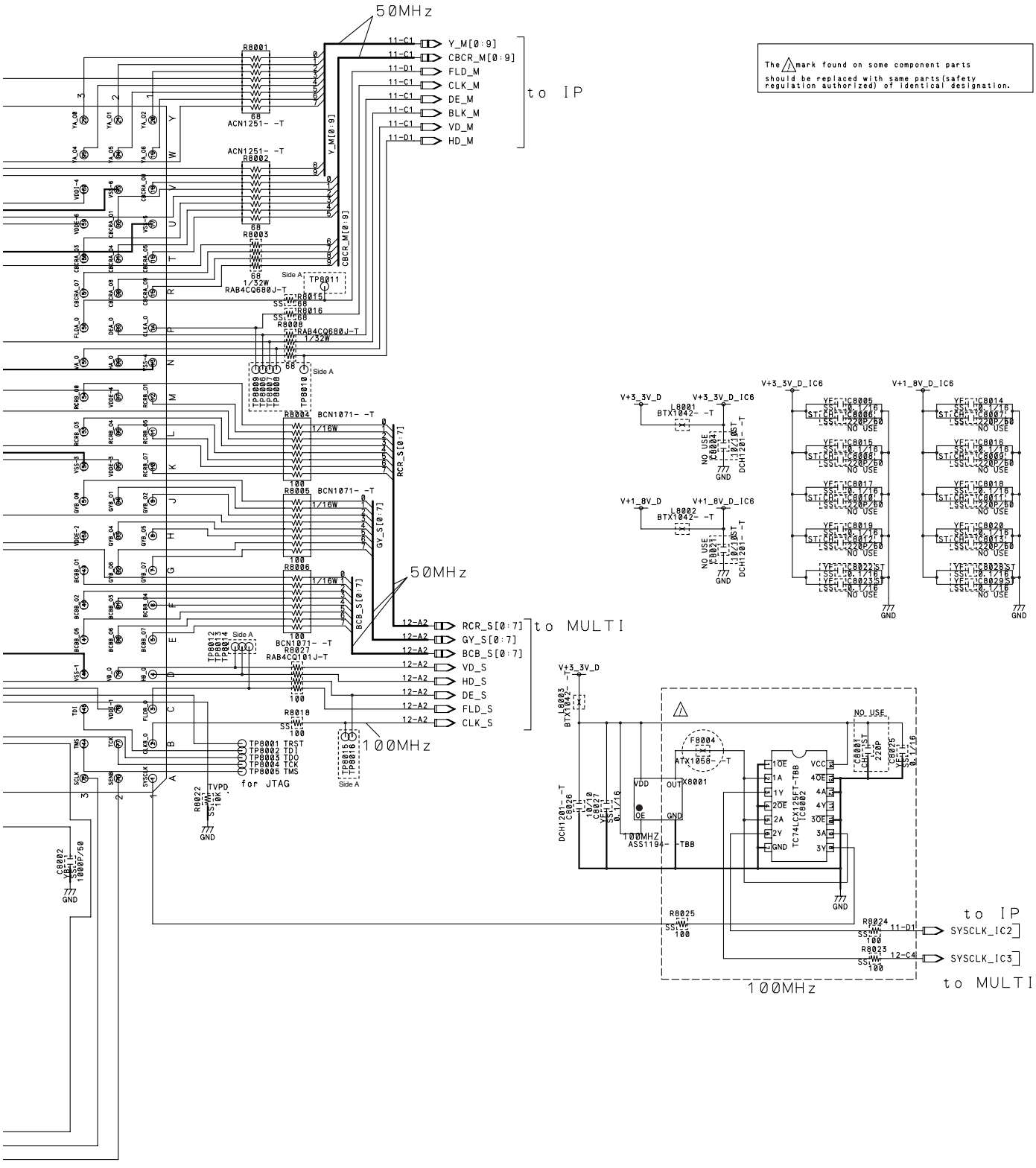

Pu ton the side A
CLK_PLK3
VD_PLK3
HD_PLK3
DE_PLK3
CLK3
VD3
HD3
DE3
to DSEL
BA2_PLK[0:7]
GA2_PLK[0:7]
RA2_PLK[0:7]
DIN3_BCB[0:7]
DIN3_GY[0:7]
DIN3_RCR[0:7]
DIN3_BCB[0:7]
DIN3_GY[0:7]
DIN3_RCR[0:7]
BCN1071- -T
37.125MHz
28.322MHz
X5401
ASS1192- -T
28.322MHZ
GND
from MAINUCOM
MAIN_UCOM[1:176]
1-A4, 1-B2, 1-B4
1-D5, 2-D6, 3-B6
4-B1, 5-B5, 7-B4
8-B2, 12-B1, 13-B5
14-A4
RST_ASIC
HDMI_INT
DEMP
IC5402
PCM1754DBQ-TBB
to AV_SW
HDMI_RCH
HDMI_LCH
4VD-B
2.5VDC
+3.3V
+1.8V

10.10 MAIN ASSY (10/14) [DSEL BLOCK]

MAIN ASSY (EU/IBD) (10/14)

• DSEL BLOCK

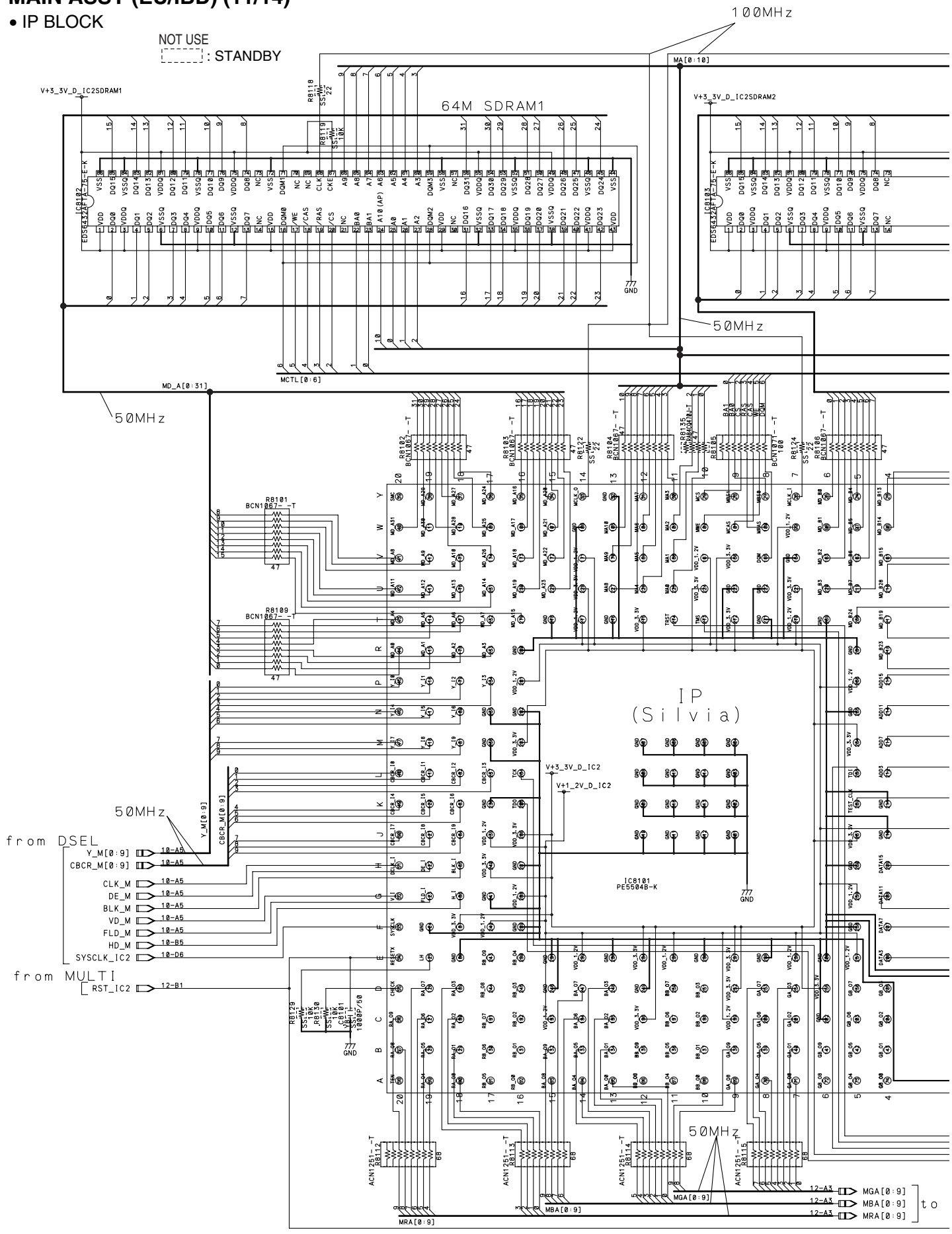


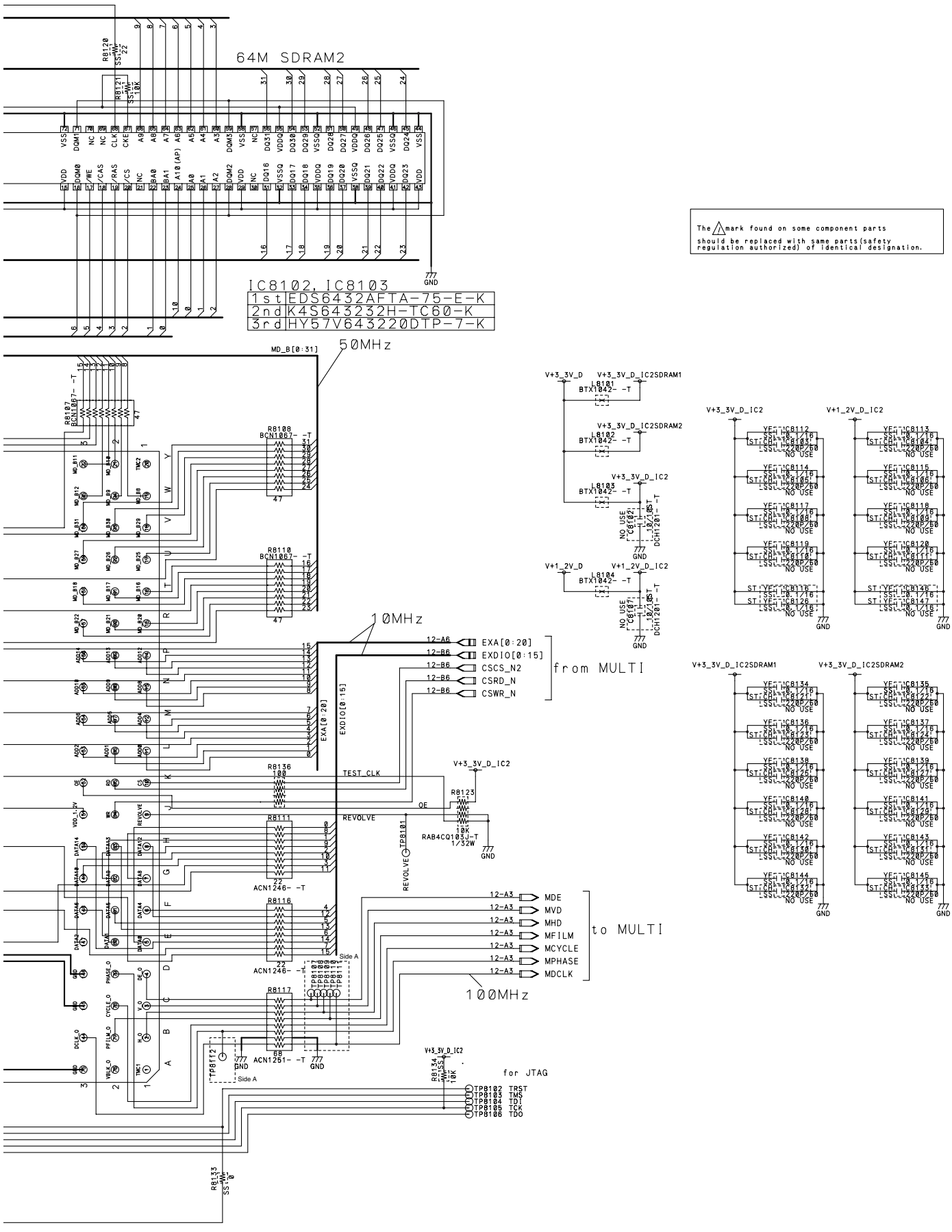

50MHz
R8001
ACN1251- -T
R8002
ACN1251- -T
R8003
1/32W
RAB4CQ680J-T
Side A
TP8011
R8015
R8016
R8008
RAB4CQ680J-T
1/32W
TP8009
TP8010
TP8007
TP8008
R8004 BCN1071- -T
1/16W
R8005 BCN1071- -T
1/16W
R8006
1/16W
50MHz
R8027
RAB4CQ101J-T
R8018
100MHz
TP8001 TRST
TP8002 TDI
TP8003 TDO
TP8004 TCK
TP8005 TMS
for JTAG
TP8012
TP8013
TP8014
BCN1071- -T
TVPD
R8022
10K
GND
C8002
1000P/50
Y_M[0:9]
CBCR_M[0:9]
RCR_S[0:7]
GY_S[0:7]
BCB_S[0:7]
11-C1 Y_M[0:9]
11-C1 CBCR_M[0:9]
11-D1 FLD_M
11-C1 CLK_M
11-C1 DE_M
11-C1 BLK_M
11-C1 VD_M
11-D1 HD_M
to IP
12-A2 RCR_S[0:7]
12-A2 GY_S[0:7]
12-A2 BCB_S[0:7]
12-A2 VD_S
12-A2 HD_S
12-A2 DE_S
12-A2 FLD_S
12-A2 CLK_S
to MULTI
The ⚠ mark found on some component parts should be replaced with same parts(safety regulation authorized) of identical designation.
V+3_3V_D
V+3_3V_D_IC6
L8001
BTX1042- -T
C8004
10/10
DCH1201- -T
GND
V+1_8V_D
V+1_8V_D_IC6
L8002
BTX1042- -T
C8021
10/10
DCH1201- -T
GND
V+3_3V_D_IC6
V+1_8V_D_IC6
C8005
C8006
C8007
C8008
C8009
C8010
C8011
C8012
C8013
C8014
C8015
C8016
C8017
C8018
C8019
C8020
C8022ST
C8023ST
220P/50
NO USE
GND
L8003
BTX1042- -T
F8004
ATX1058- -T
X8001
VDD
OUT
OE
GND
100MHZ
ASS1194- -TBB
DCH1201- -T
C8026
C8027
C8028
C8029
C8025
IC8002
TC74LCX125FT-TBB
10E
1A
1Y
2OE
2A
2Y
GND
VCC
4OE
4A
4Y
3OE
3A
3Y
R8025
100
R8024
100
R8023
100
11-D1 SYSCLK_IC2
12-C4 SYSCLK_IC3
to IP
to MULTI
100MHz

10.11 MAIN ASSY (11/14) [IP BLOCK]

MAIN ASSY (EU/IBD) (11/14)

• IP BLOCK




64M SDRAM2
IC8102, IC8103
1st EDS6432AFTA-75-E-K
2nd K4S643232H-TC60-K
3rd HY57V643220DTP-7-K
50MHz
10MHz
100MHz
MD_B[0:31]
EXA[0:20]
EXDIO[0:15]
CSCS_N2
CSRD_N
CSWR_N
from MULTI
to MULTI
MDE
MVD
MHD
MFILM
MCYCLE
MPHASE
MDCLK
TEST_CLK
REVOLVE
QE
for JTAG
TP8102 TRST
TP8103 TMS
TP8104 TDI
TP8105 TCK
TP8106 TDO
The ⚠ mark found on some component parts should be replaced with same parts(safety regulation authorized) of identical designation.

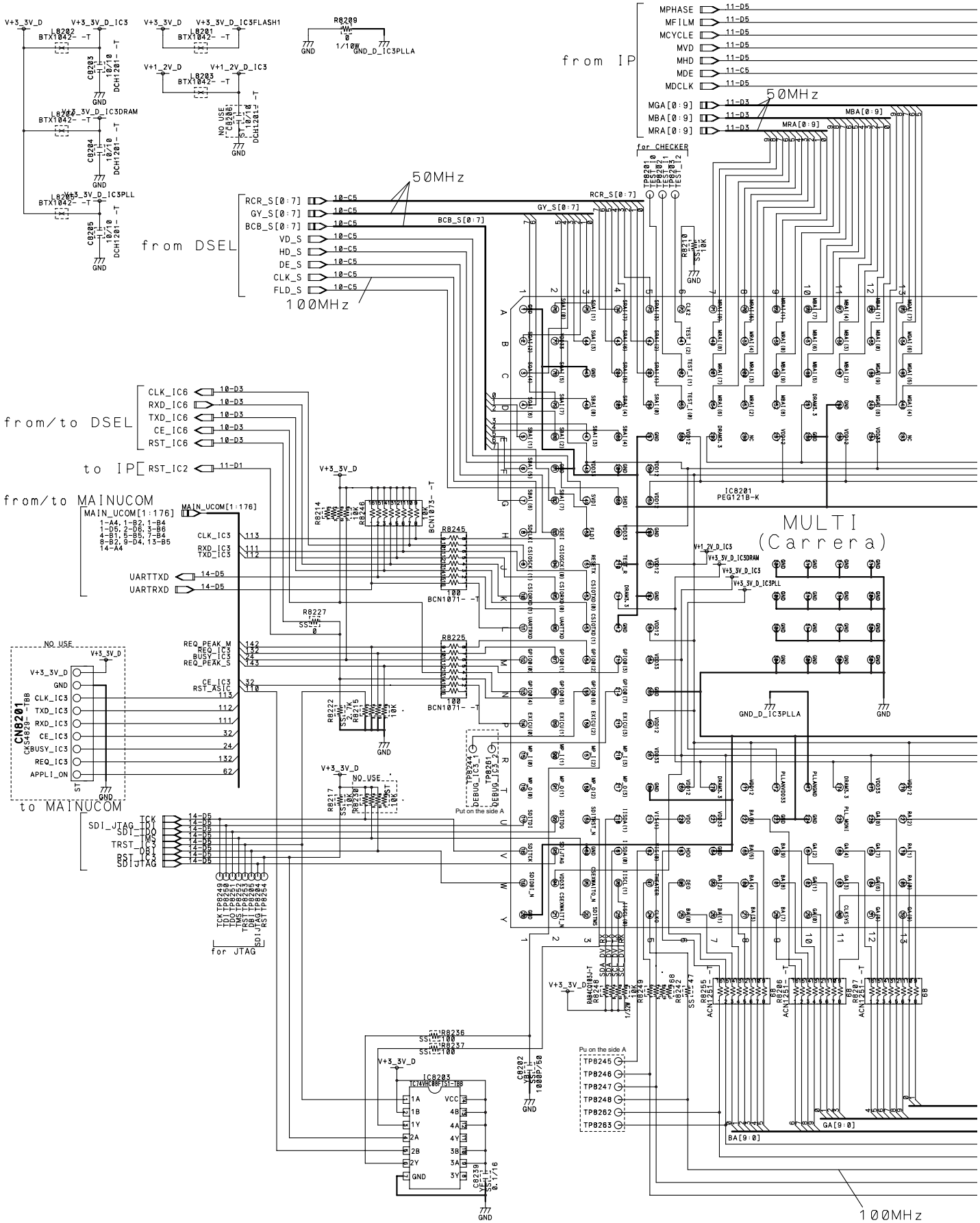
10.12 MAIN ASSY (12/14) [MULTI BLOCK]

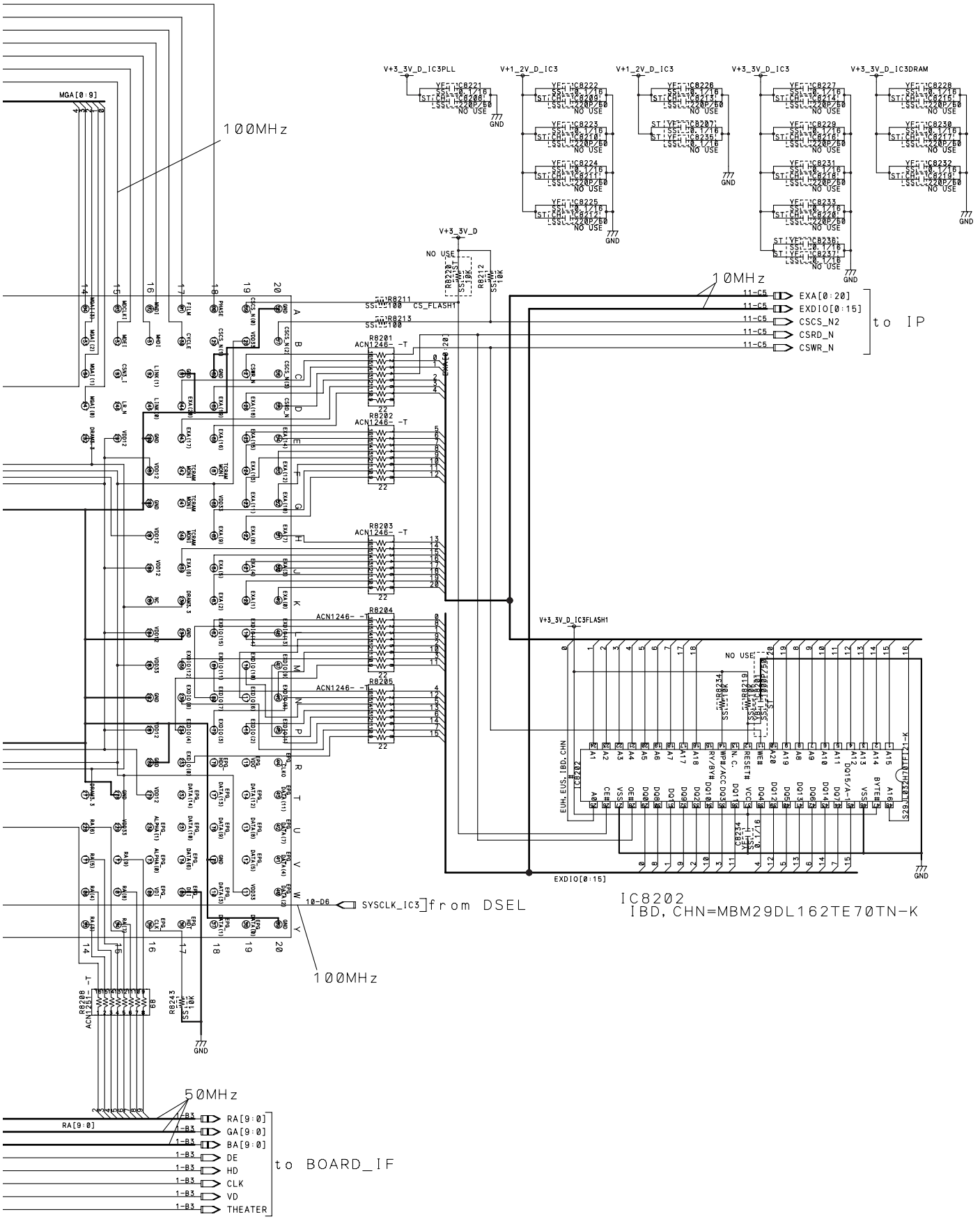
MAIN ASSY (EU/IBD) (12/14)

NOT USE

[ ] : STANDBY

• MULTI BLOCK



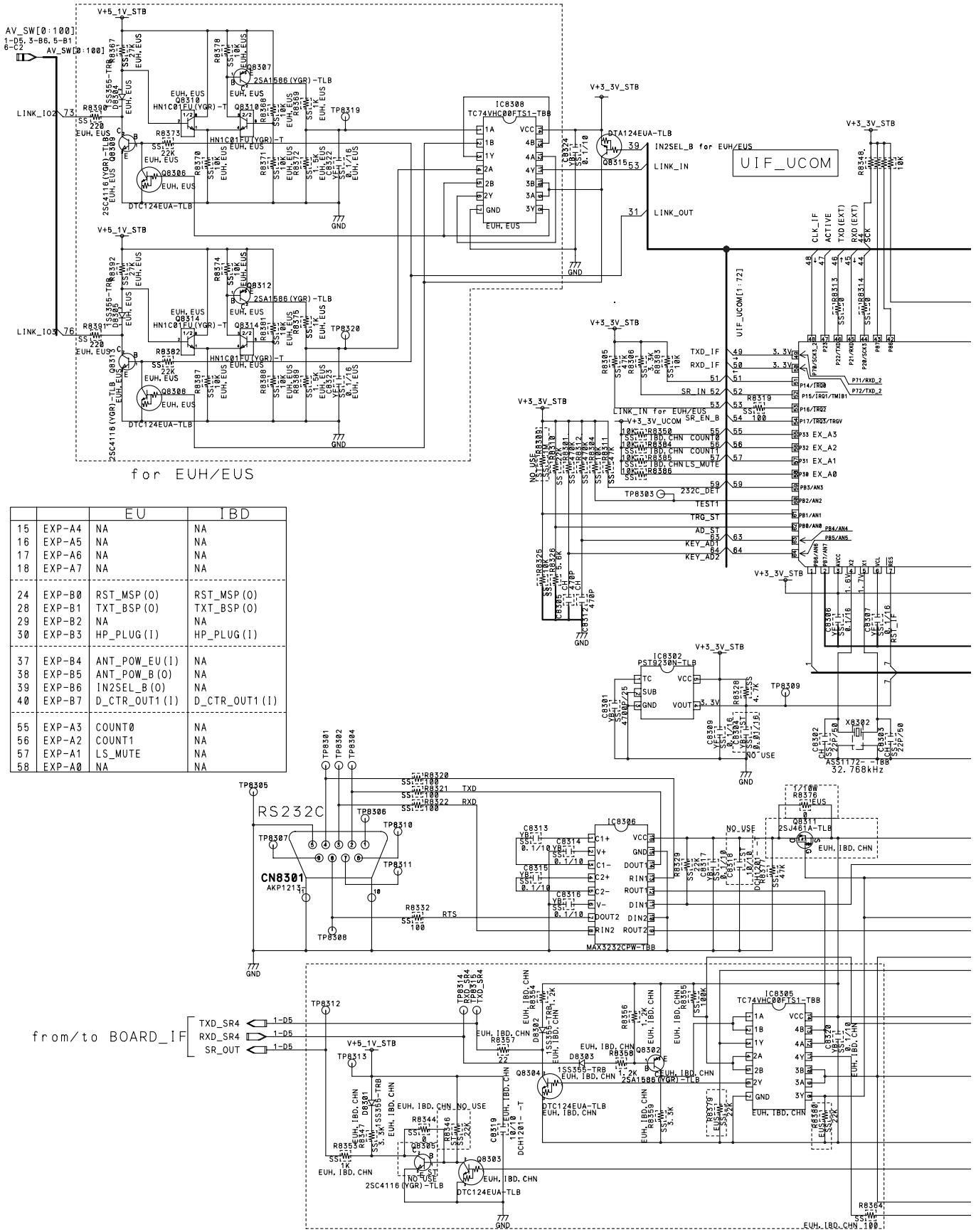

MGA[0:9]
100MHz
V+3_3V_D_IC3PLL
V+1_2V_D_IC3
V+1_2V_D_IC3
V+3_3V_D_IC3
V+3_3V_D_IC3DRAM
NO USE
GND
V+3_3V_D
R8220
R8212
10K
R8211
R8213
CS_FLASH1
10MHz
EXA[0:20]
EXDIO[0:15]
CSCS_N2
CSRD_N
CSWR_N
to IP
R8201
R8202
R8203
R8204
R8205
ACN1246- -T
V+3_3V_D_IC3FLASH1
IC8202
IBD,CHN=MBM29DL162TE70TN-K
EXDIO[0:15]
10-D6
SYSCLK_IC3
from DSEL
100MHz
R8208
R8243
50MHz
RA[9:0]
GA[9:0]
BA[9:0]
DE
HD
CLK
VD
THEATER
to BOARD_IF

10.13 MAIN ASSY (13/14) [IF UCOM BLOCK]

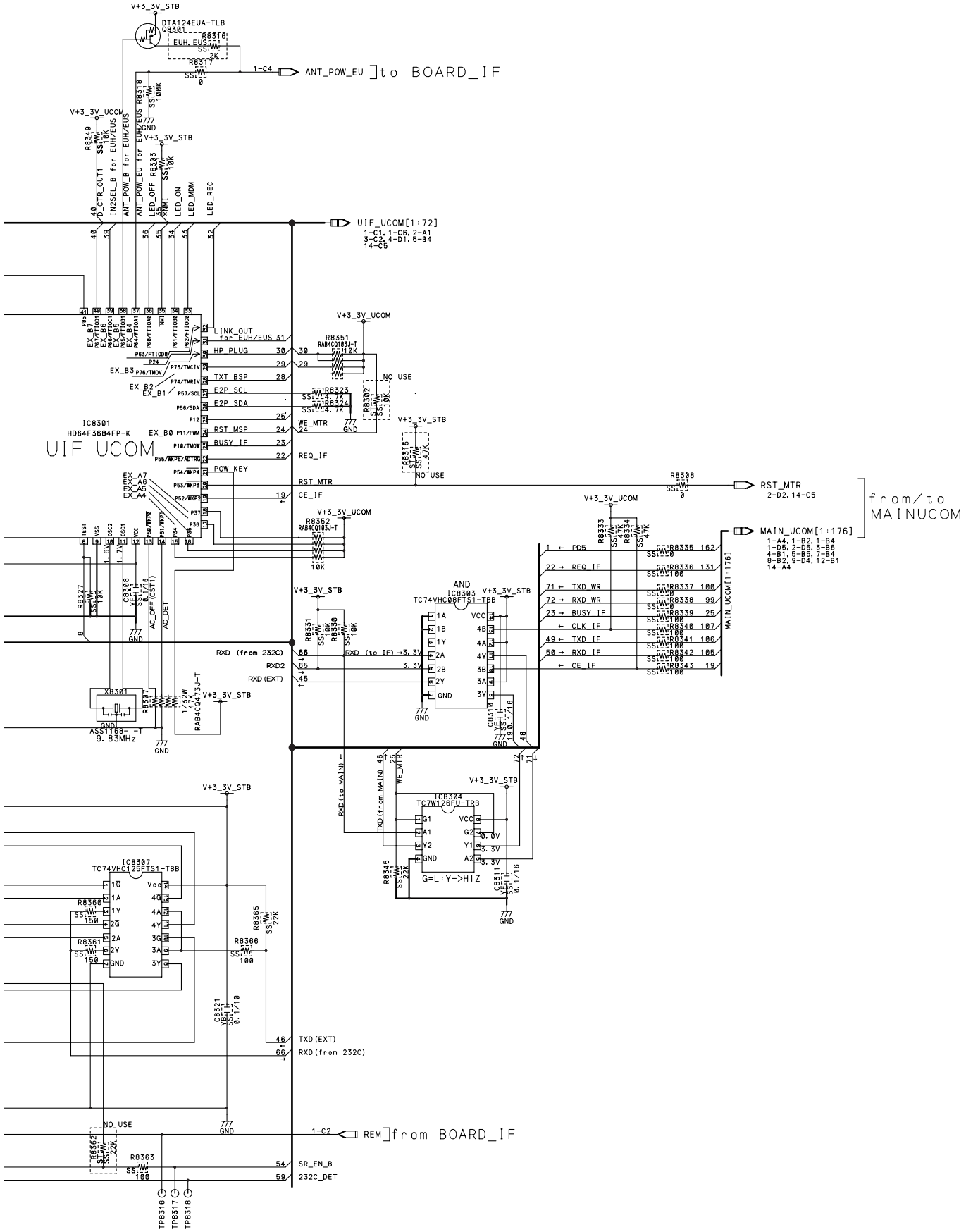
MAIN ASSY (EU/IBD) (13/14)

• IF_UCOM BLOCK

NOT USE
[- - -] : STANDBY



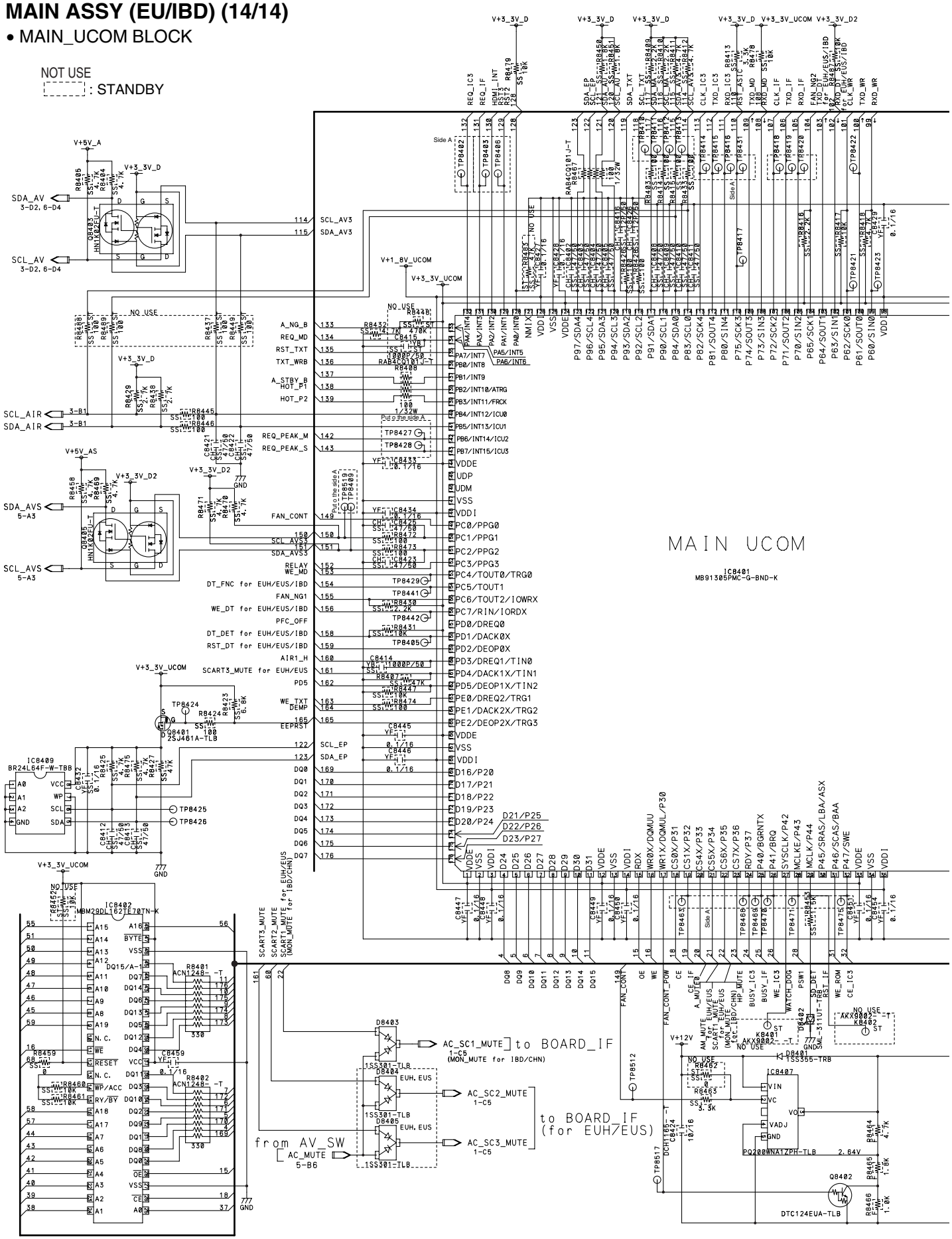
		EU	IBD
15	EXP-A4	NA	NA
16	EXP-A5	NA	NA
17	EXP-A6	NA	NA
18	EXP-A7	NA	NA
24	EXP-B0	RST_MSP(O)	RST_MSP(O)
28	EXP-B1	TXT_BSP(O)	TXT_BSP(O)
29	EXP-B2	NA	NA
30	EXP-B3	HP_PLUG(I)	HP_PLUG(I)
37	EXP-B4	ANT_POW_EU(I)	NA
38	EXP-B5	ANT_POW_B(O)	NA
39	EXP-B6	IN2SEL_B(O)	NA
40	EXP-B7	D_CTR_OUT1(I)	D_CTR_OUT1(I)
55	EXP-A3	COUNT0	NA
56	EXP-A2	COUNT1	NA
57	EXP-A1	LS_MUTE	NA
58	EXP-A0	NA	NA

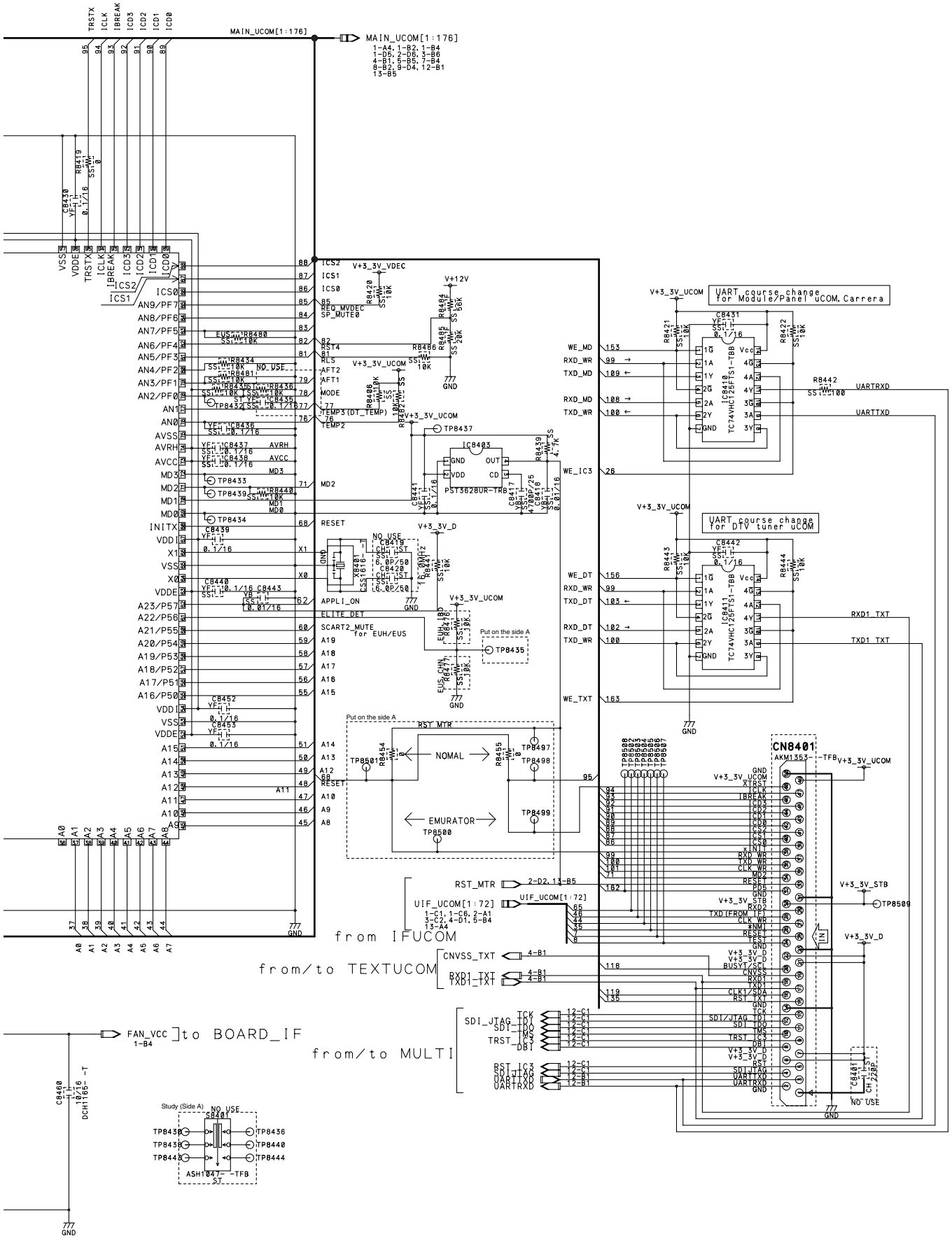

UIF UCOM
IC8301
HD64F3684FP-K
V+3_3V_STB
V+3_3V_UCOM
DTA124EUA-TLB
Q8301
EUH,EUS
ANT_POW_EU
to BOARD_IF
UIF_UCOM[1:72]
LINK_OUT for EUH/EUS
HP PLUG
TXT BSP
E2P SCL
E2P SDA
RST MSP
BUSY IF
REQ_IF
POW_KEY
RST_MTR
CE_IF
WE_MTR
NO USE
RXD (from 232C)
RXD2
RXD (EXT)
RXD (to IF)→3.3V
TXD (EXT)
RXD (from 232C)
REM
from BOARD_IF
SR_EN_B
232C_DET
MAIN_UCOM[1:176]
from/to MAINUCOM
AND
IC8303
TC74VHC08FTS1-TBB
IC8304
TC7W126FU-TRB
IC8307
TC74VHC125FTS1-TBB
G=L:Y->HiZ
X8301
9.83MHz
TP8316
TP8317
TP8318

10.14 MAIN ASSY (14/14) [MAIN UCOM BLOCK]

MAIN ASSY (EU/IBD) (14/14)

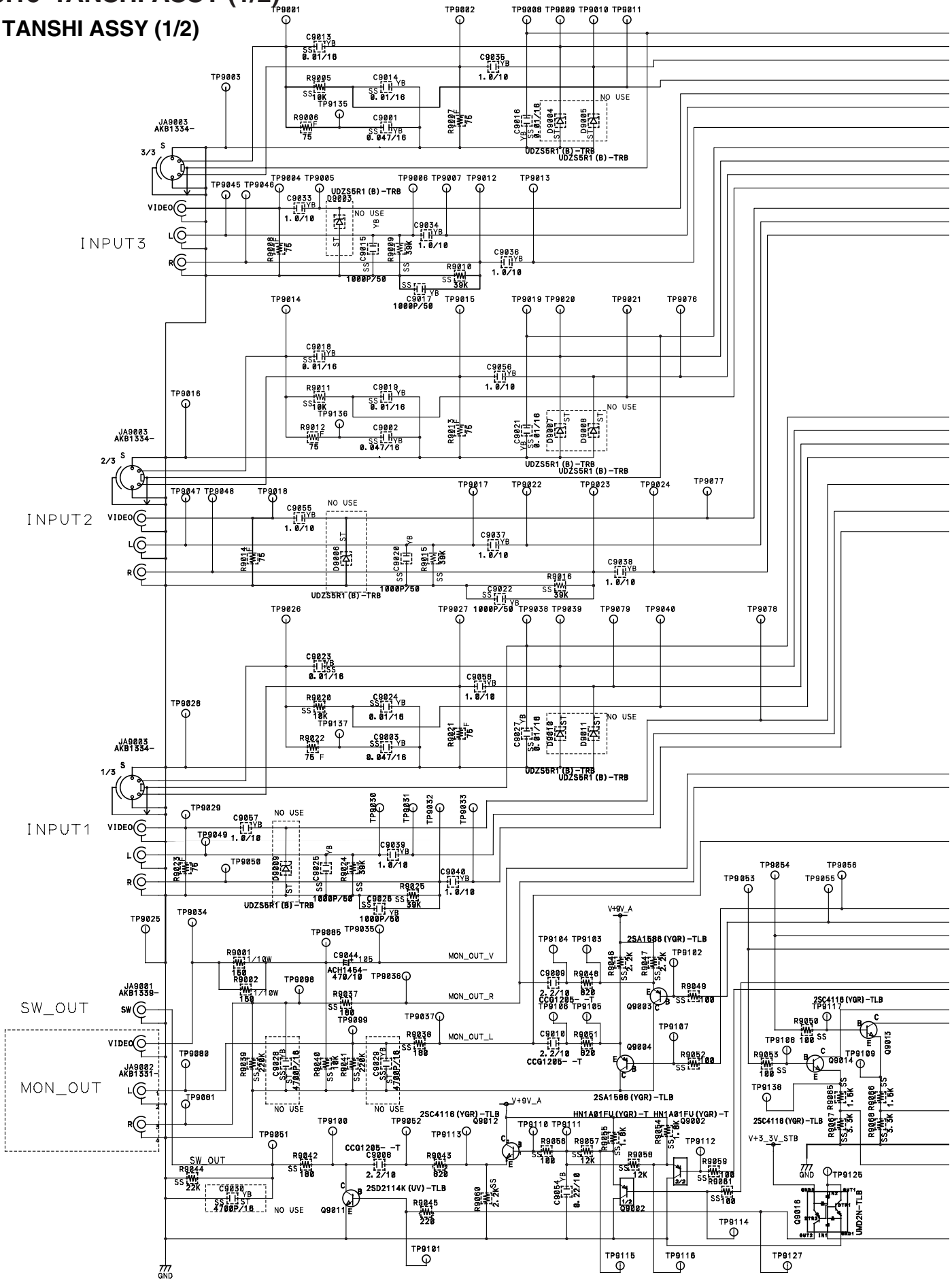
• MAIN_UCOM BLOCK

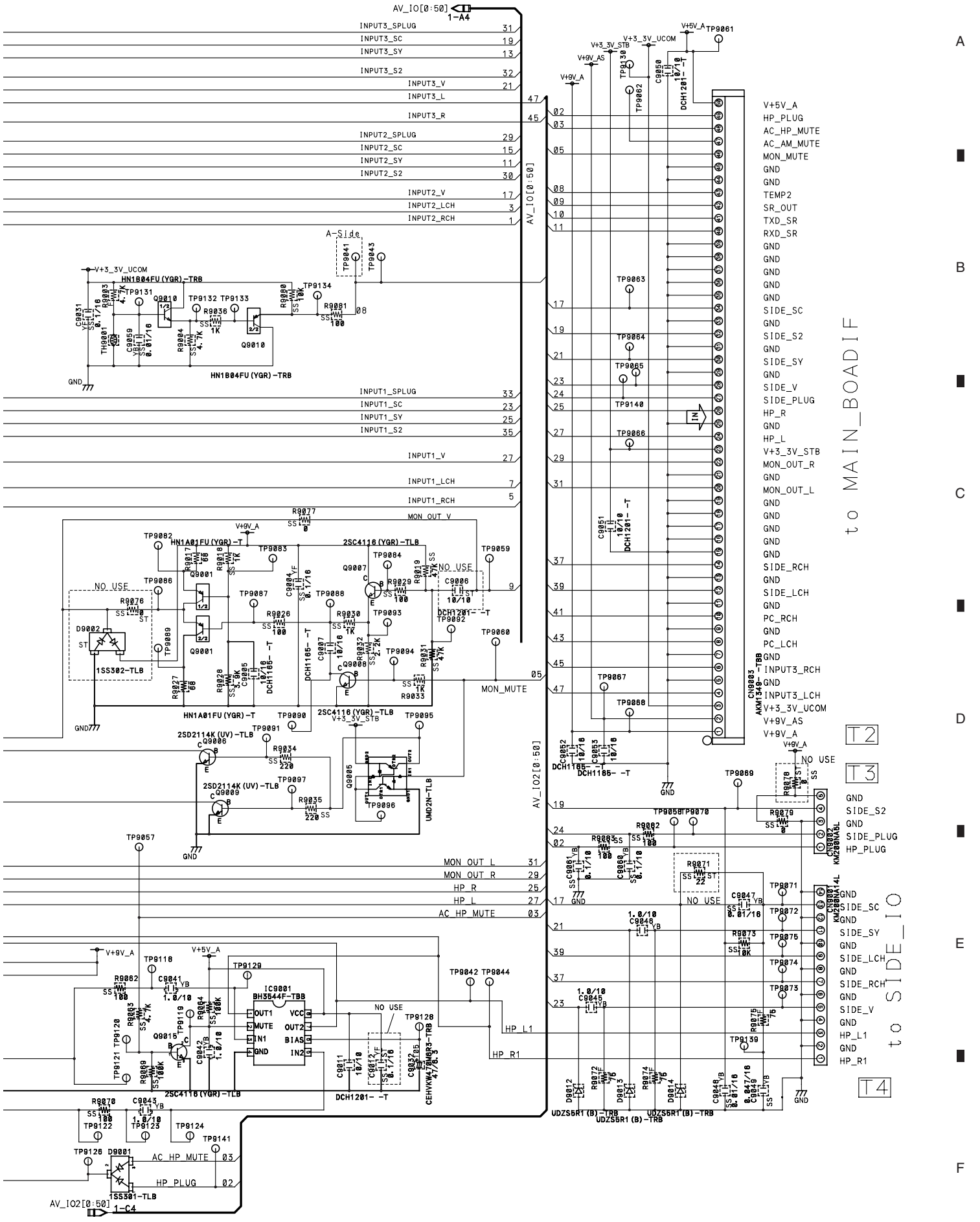



MAIN_UCOM[1:176]
MAIN_UCOM[1:176]
1-A4, 1-B2, 1-B4
1-D5, 2-D6, 3-B6
4-B1, 5-B5, 7-B4
8-B2, 9-D4, 12-B1
13-B5
TRSTX
ICLK
IBREAK
ICD3
ICD2
ICD1
ICD0
ICS2
ICS1
ICS0
AN9/PF7
AN8/PF6
AN7/PF5
AN6/PF4
AN5/PF3
AN4/PF2
AN3/PF1
AN2/PF0
AN1
AN0
AVSS
AVRH
AVCC
MD3
MD2
MD1
MD0
INITX
VDDI
X1
VSS
X0
VDDE
A23/P57
A22/P56
A21/P55
A20/P54
A19/P53
A18/P52
A17/P51
A16/P50
A15
A14
A13
A12
A11
A10
A9
A8
RESET
TEMP3(DT_TEMP)
TEMP2
REQ_MVDEC
SP_MUTE0
RST4
RLS
AFT2
AFT1
MODE
APPLI_ON
ELITE DET
SCART2_MUTE
for EUH/EUS
V+3_3V_VDEC
V+12V
V+3_3V_UCOM
V+3_3V_D
NO USE
UART course change
for Module/Panel uCOM, Carrera
UART course change
for DTV tuner uCOM
IC8403
PST3628UR-TRB
IC8410
IC8411
TC74VHC126FTS1-TBB
WE_MD
RXD_WR
TXD_MD
RXD_MD
TXD_WR
WE_IC3
WE_DT
TXD_DT
RXD_DT
WE_TXT
UARTRXD
UARTTXD
RXD1_TXT
TXD1_TXT
RST_MTR
NOMAL
EMURATOR
Put on the side A
TP8435
TP8436
TP8440
TP8444
TP8497
TP8498
TP8499
TP8500
CN8401
AKM1353-
-TFB
V+3_3V_STB
V+3_3V_D
V+3_3V_UCOM
from IFUCOM
from/to TEXTUCOM
from/to MULTI
to BOARD_IF
FAN_VCC
CNVSS_TXT
RXD1_TXT
TXD1_TXT
UIF_UCOM[1:72]
SDI_JTAG_TCK
SDI_JTAG_TDI
SDI_JTAG_TDO
SDI_JTAG_TMS
SDI_JTAG_TRST
SDI_JTAG_DBI
RST_IC3
UARTTXD
UARTRXD
Study (Side A)
S8401
ASH1047-
-TFB
GND

10.15 TANSHI ASSY (1/2)

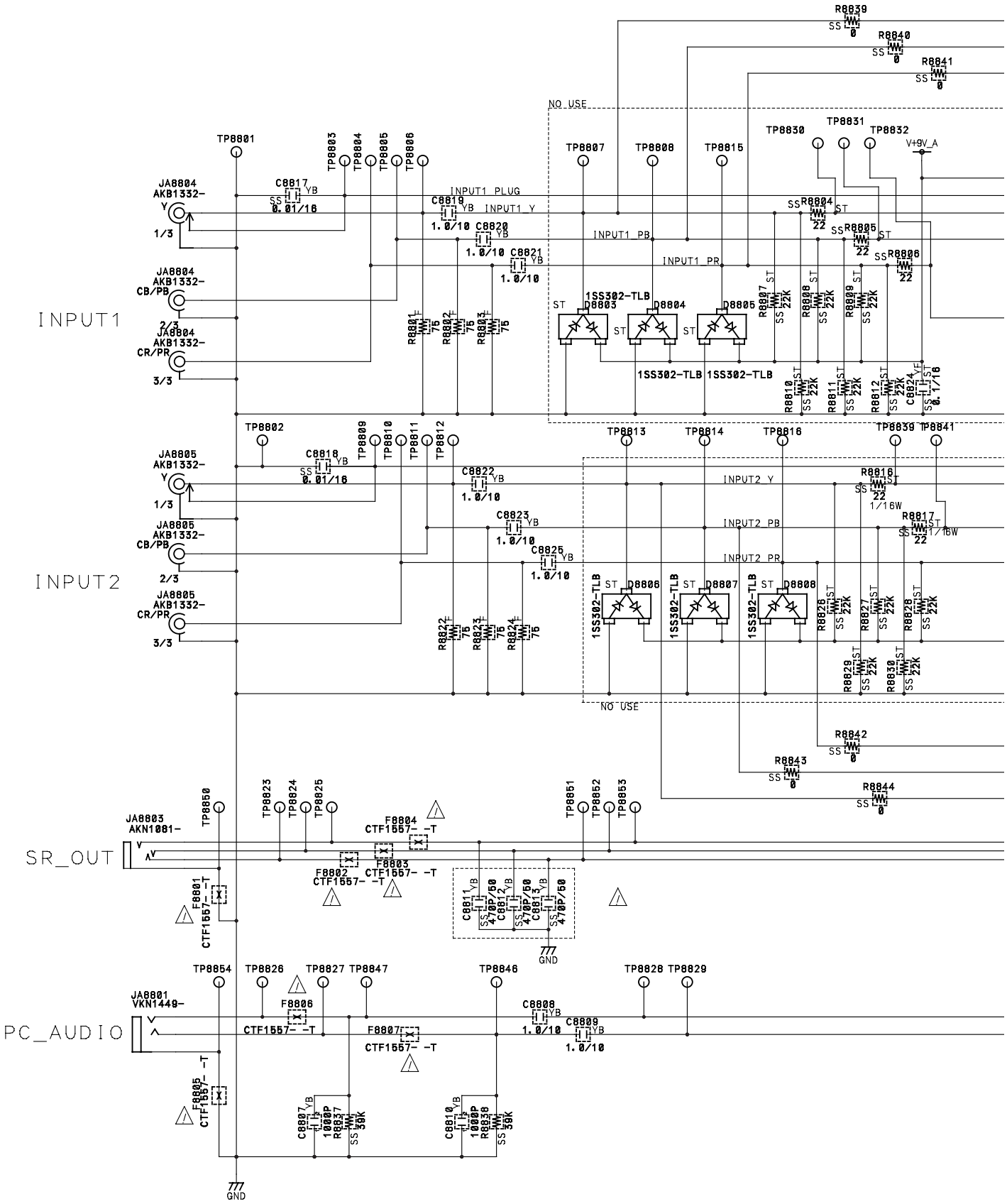
TANSHI ASSY (1/2)

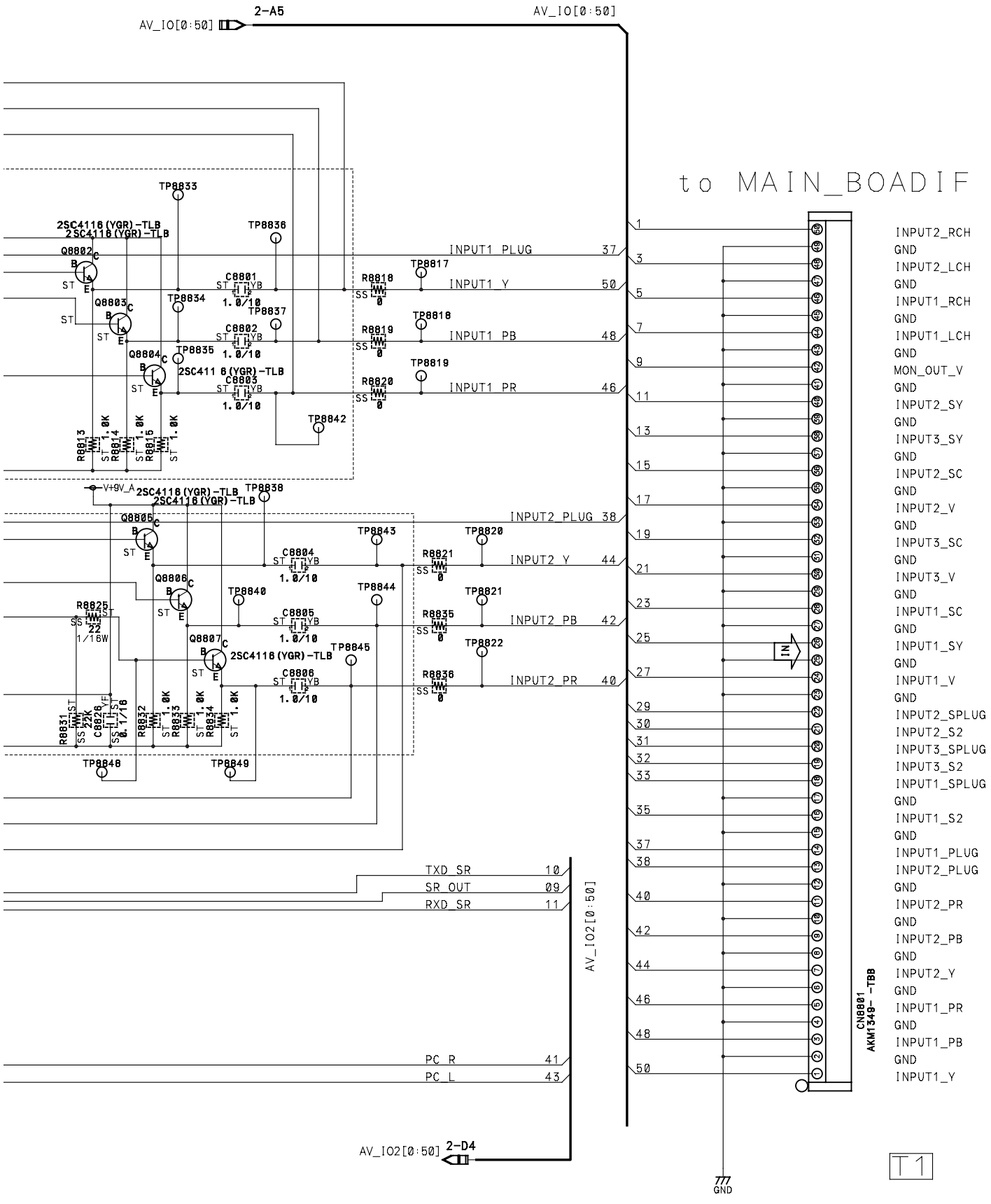



AV_IO[0:50]
1-A4
INPUT3_SPLUG
INPUT3_SC
INPUT3_SY
INPUT3_S2
INPUT3_V
INPUT3_L
INPUT3_R
INPUT2_SPLUG
INPUT2_SC
INPUT2_SY
INPUT2_S2
INPUT2_V
INPUT2_LCH
INPUT2_RCH
INPUT1_SPLUG
INPUT1_SC
INPUT1_SY
INPUT1_S2
INPUT1_V
INPUT1_LCH
INPUT1_RCH
MON_OUT_V
MON_MUTE
MON_OUT_L
MON_OUT_R
HP_R
HP_L
AC_HP_MUTE
HP_L1
HP_R1
HP_PLUG
AV_IO2[0:50]
1-C4
A-Side
HN1B04FU(YGR)-TRB
HN1A01FU(YGR)-T
2SC4116(YGR)-TLB
2SD2114K(UV)-TLB
1SS302-TLB
UMD2N-TLB
BH3544F-TBB
UDZS5R1(B)-TRB
DCH1201- -T
DCH1165- -T
NO USE
V+5V_A
V+9V_A
V+3_3V_UCOM
V+3_3V_STB
V+9V_AS
GND
to MAIN_BOADIF
to SIDE_IO
T2
T3
T4

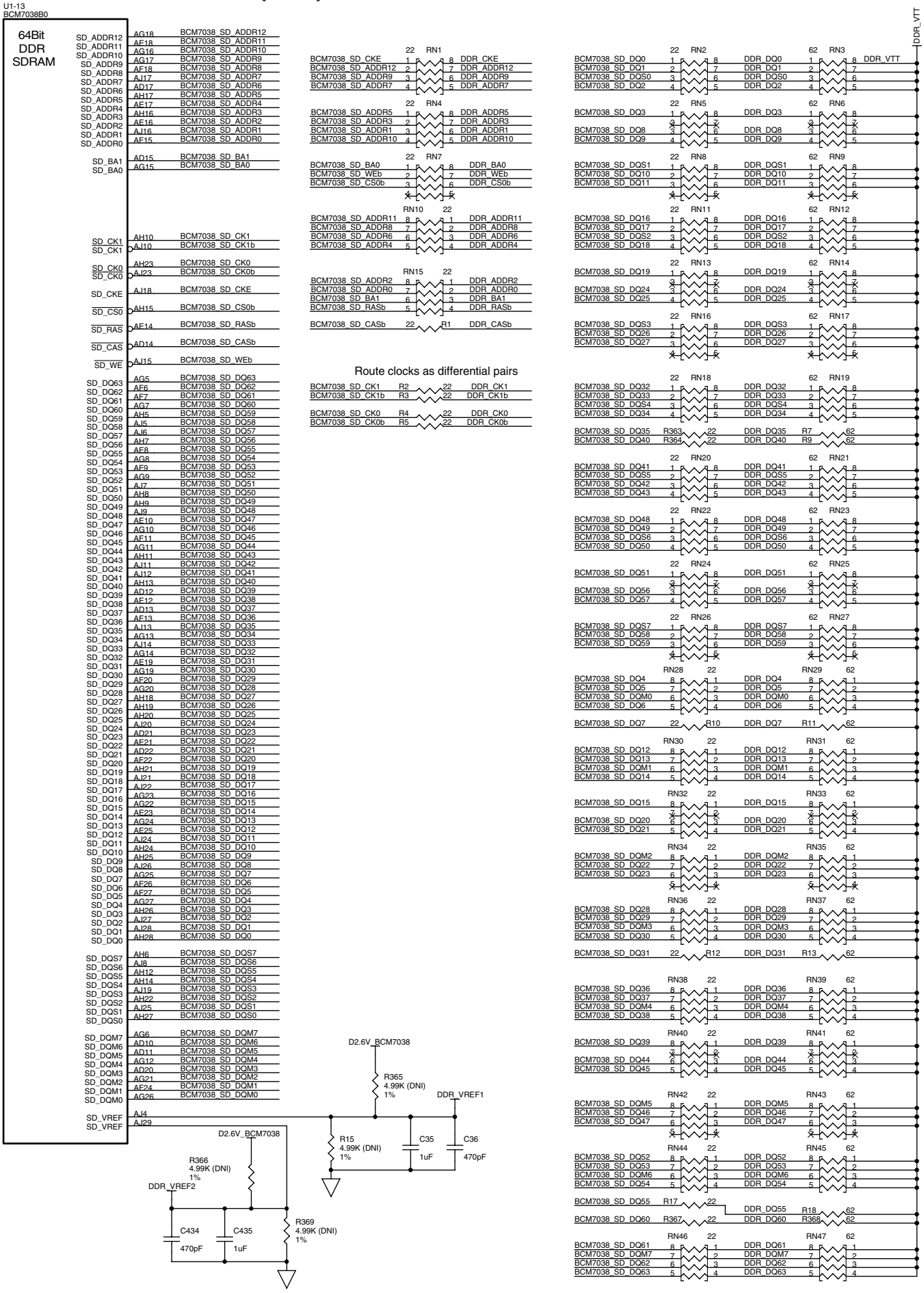
10.16 TANSHI ASSY (2/2)

TANSHI ASSY (2/2)



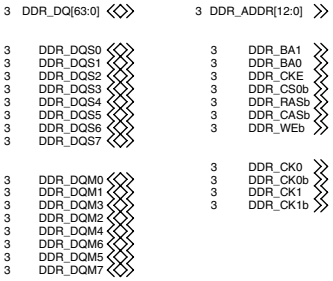

2-A5
AV_IO[0:50]
AV_IO[0:50]
to MAIN_BOADIF
INPUT1_PLUG 37
INPUT1_Y 50
INPUT1_PB 48
INPUT1_PR 46
INPUT2_PLUG 38
INPUT2_Y 44
INPUT2_PB 42
INPUT2_PR 40
TXD_SR 10
SR_OUT 09
RXD_SR 11
PC_R 41
PC_L 43
AV_IO2[0:50]
AV_IO2[0:50] 2-D4
CN8801
AKM1349- -TBB
INPUT2_RCH
GND
INPUT2_LCH
GND
INPUT1_RCH
GND
INPUT1_LCH
GND
MON_OUT_V
GND
INPUT2_SY
GND
INPUT3_SY
GND
INPUT2_SC
GND
INPUT2_V
GND
INPUT3_SC
GND
INPUT3_V
GND
INPUT1_SC
GND
INPUT1_SY
GND
INPUT1_V
GND
INPUT2_SPLUG
INPUT2_S2
INPUT3_SPLUG
INPUT3_S2
INPUT1_SPLUG
GND
INPUT1_S2
GND
INPUT1_PLUG
INPUT2_PLUG
GND
INPUT2_PR
GND
INPUT2_PB
GND
INPUT2_Y
GND
INPUT1_PR
GND
INPUT1_PB
GND
INPUT1_Y
GND
T1

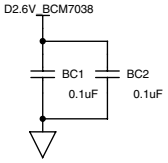
10.17 DTV MB ASSY (1/16)

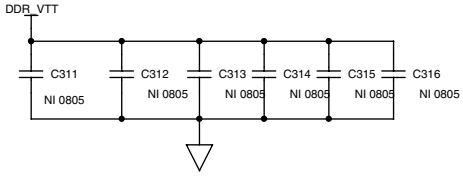


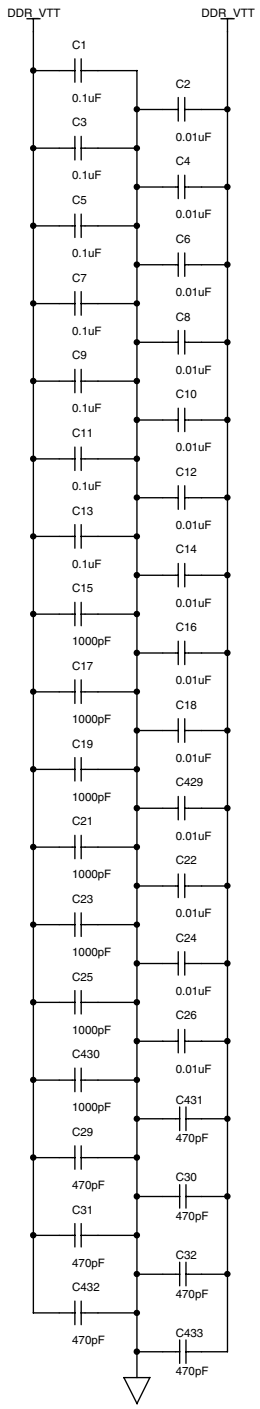
DTV MB ASSY (1/16)

• DDR TERM/CONN BLOCK









New DDR routing rules:

All timing is relative the CLK/CLKb that arrive at the destination DDR SDRAM chip.

1) X = CLK/CLKb should be a matched differential pair with a length < 4"

2) Address and control should be X +/- 0.75" (or 100 ps)
3) DQS and DQM should be X +/- 0.75" (or 100 ps)
4) All DQs should match corresponding byte lane DQS/DQMs within +/- 0.20" (or 30 ps)

5) Place 22 ohm resisters on this page near BCM7038.

6) Place 62 ohm resisters for DQ signals midpoint between BCM7038 and DDR SDRAM

7) Place DDR_VREF1/2 resistor dividers near BCM7038

8) Trace impedances need to be 60 ohms +/- 10% (54-66 ohms)

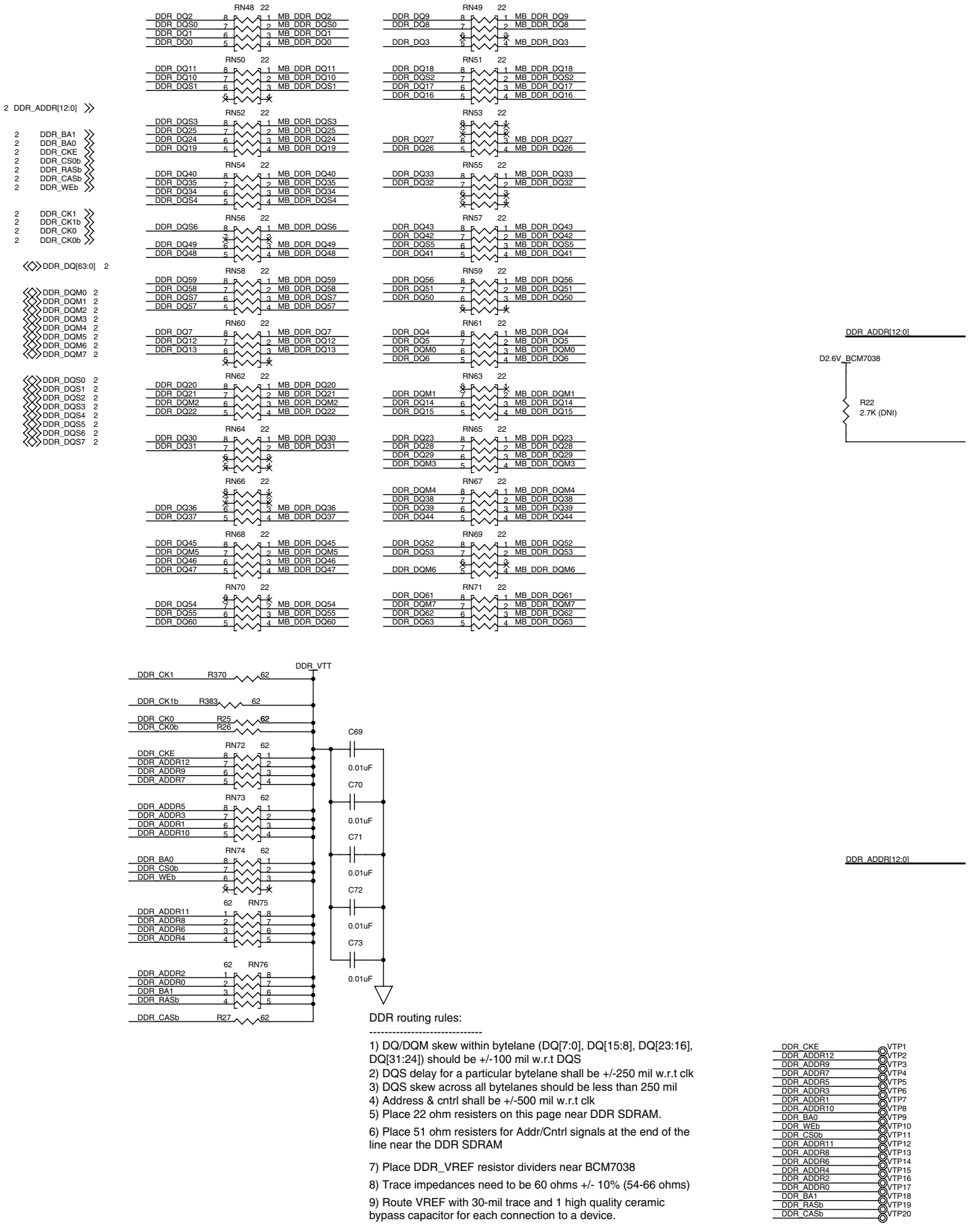
9) Route VREF with 30-mil trace and at least 1 high quality ceramic bypass capacitor for each connection to a device.

10) All traces should have a >= 3 to 1 spacing ratio fom the reference GND/PWR layer. (e.g. 15 mil line-to-line spacing for a 5 mil dielectric thickness)

10.18 DTV MB ASSY (2/16)

DTV MB ASSY (2/16)

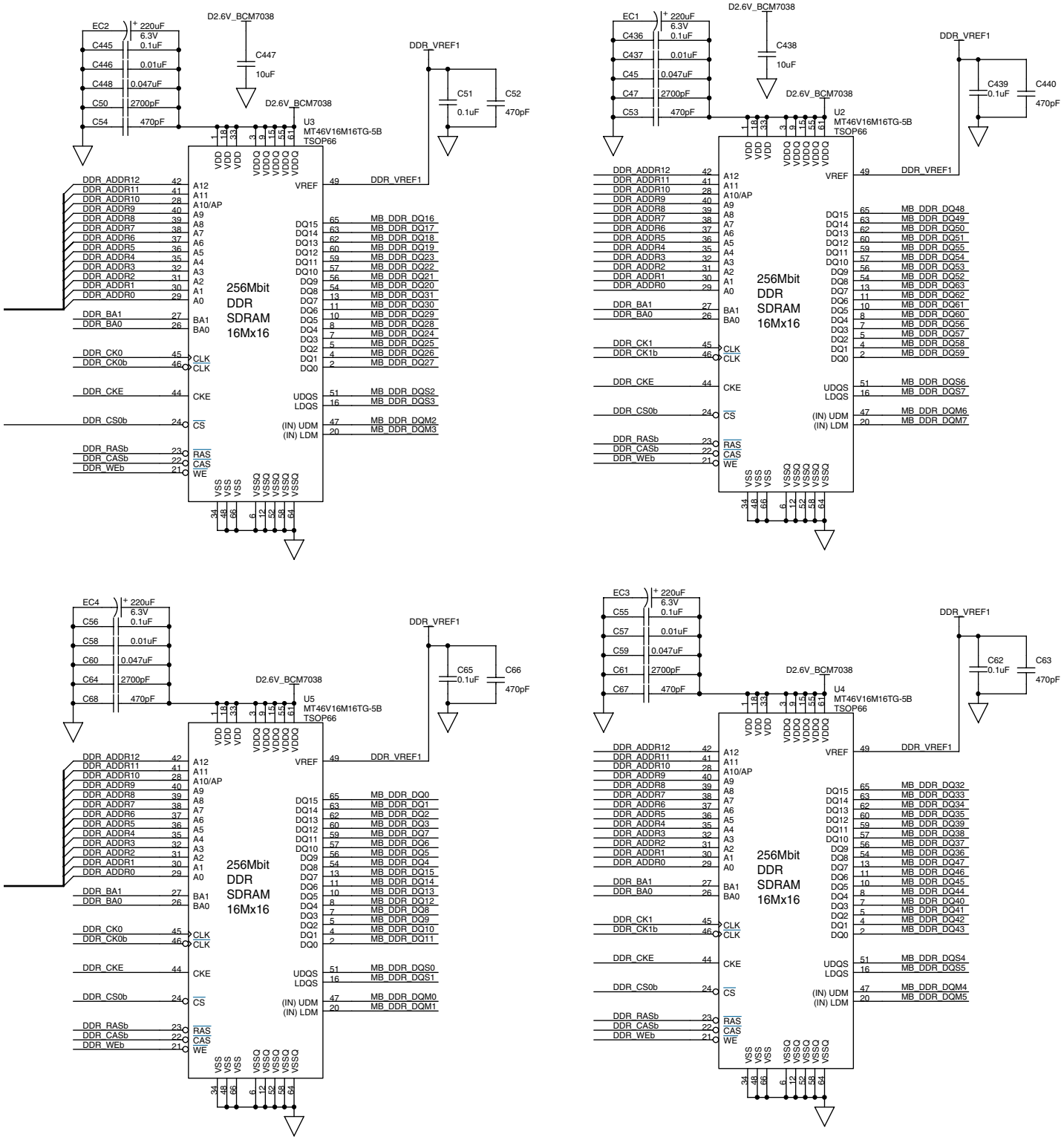
• DDR-SDRAM BLOCK



DDR routing rules:

---

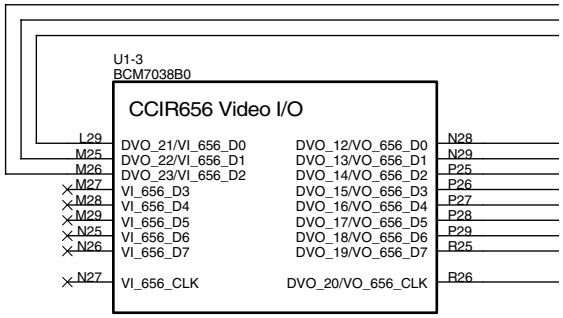
1) DQ/DQM skew within bytelane (DQ[7:0], DQ[15:8], DQ[23:16], DQ[31:24]) should be +/-100 mil w.r.t DQS
2) DQS delay for a particular bytelane shall be +/-250 mil w.r.t clk
3) DQS skew across all bytelanes should be less than 250 mil
4) Address & cntrl shall be +/-500 mil w.r.t clk
5) Place 22 ohm resisters on this page near DDR SDRAM.
6) Place 51 ohm resisters for Addr/Cntrl signals at the end of the line near the DDR SDRAM
7) Place DDR_VREF resistor dividers near BCM7038
8) Trace impedances need to be 60 ohms +/- 10% (54-66 ohms)
9) Route VREF with 30-mil trace and 1 high quality ceramic bypass capacitor for each connection to a device.

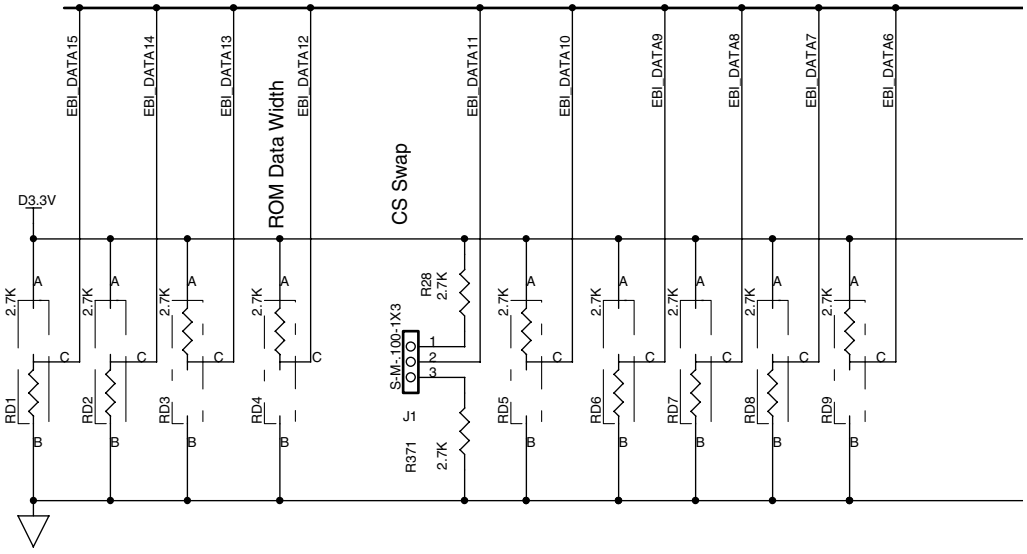

EC2
220uF
6.3V
C445
0.1uF
C446
0.01uF
C448
0.047uF
C50
2700pF
C54
470pF
D2.6V_BCM7038
C447
10uF
D2.6V_BCM7038
U3
MT46V16M16TG-5B
TSOP66
DDR_VREF1
C51
0.1uF
C52
470pF
256Mbit
DDR
SDRAM
16Mx16
EC1
220uF
6.3V
C436
0.1uF
C437
0.01uF
C45
0.047uF
C47
2700pF
C53
470pF
D2.6V_BCM7038
C438
10uF
D2.6V_BCM7038
U2
MT46V16M16TG-5B
TSOP66
DDR_VREF1
C439
0.1uF
C440
470pF
256Mbit
DDR
SDRAM
16Mx16
EC4
220uF
6.3V
C56
0.1uF
C58
0.01uF
C60
0.047uF
C64
2700pF
C68
470pF
D2.6V_BCM7038
U5
MT46V16M16TG-5B
TSOP66
DDR_VREF1
C65
0.1uF
C66
470pF
256Mbit
DDR
SDRAM
16Mx16
EC3
220uF
6.3V
C55
0.1uF
C57
0.01uF
C59
0.047uF
C61
2700pF
C67
470pF
D2.6V_BCM7038
U4
MT46V16M16TG-5B
TSOP66
DDR_VREF1
C62
0.1uF
C63
470pF
256Mbit
DDR
SDRAM
16Mx16

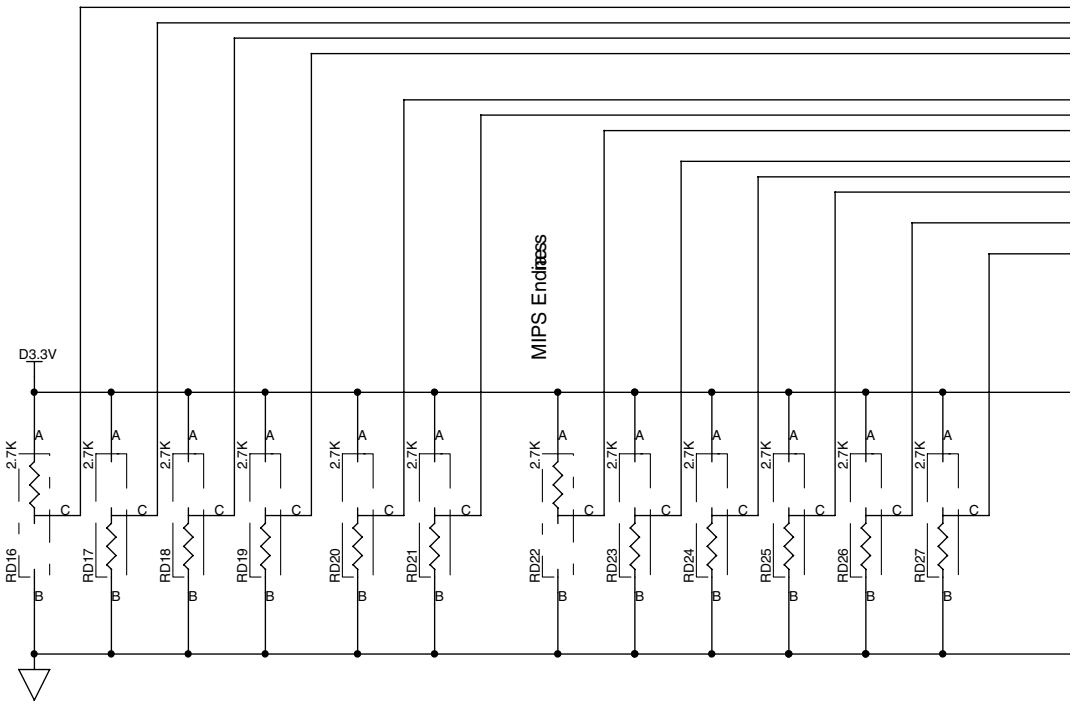
10.19 DTV MB ASSY (3/16)

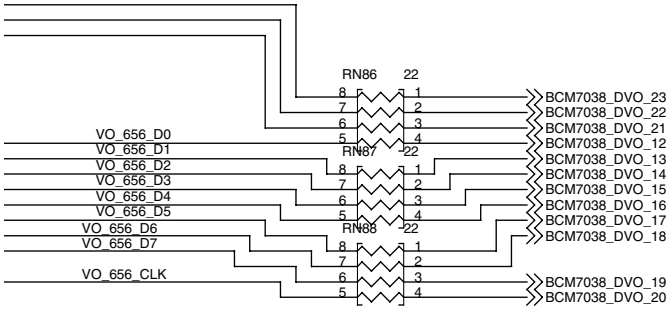
DTV MB ASSY (3/16)

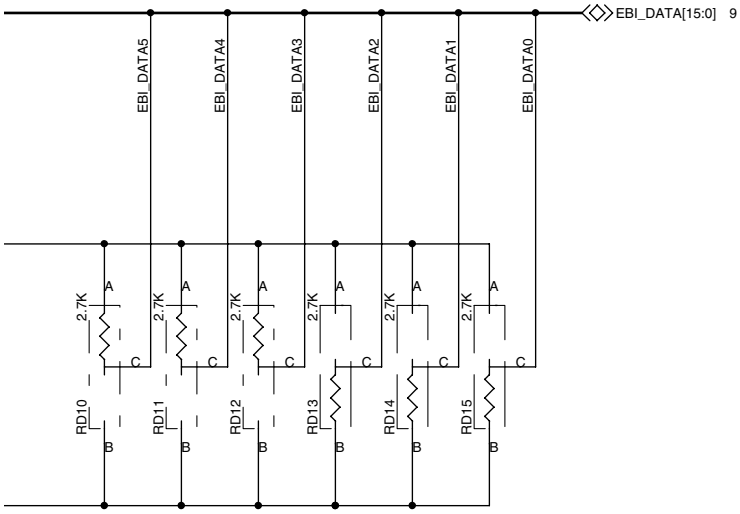
- DVO,.PIN_STRAPOPTION BLOCK

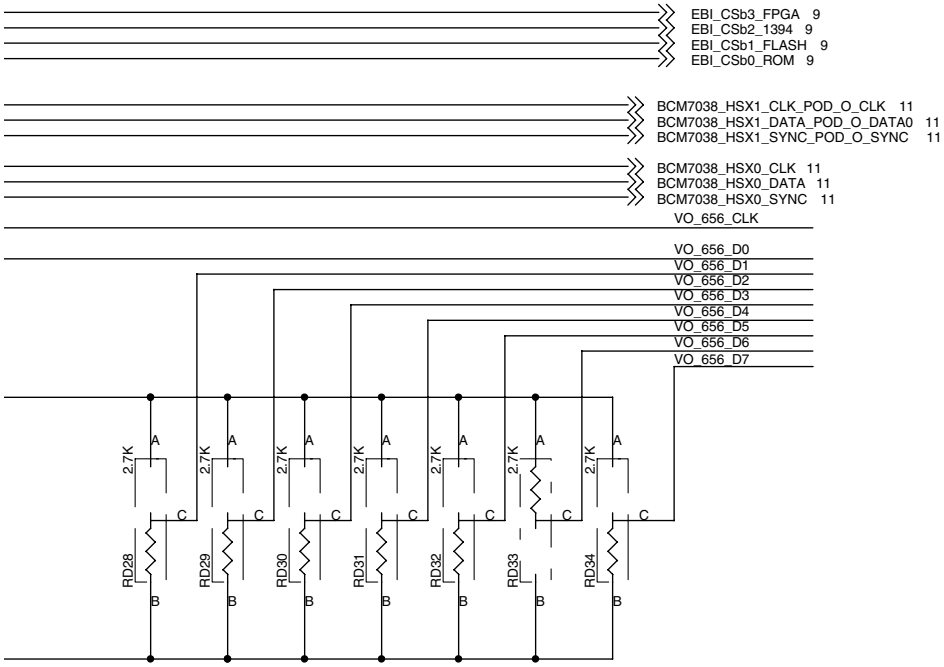







RN86 22
RN87 22
RN88 22
VO_656_D0
VO_656_D1
VO_656_D2
VO_656_D3
VO_656_D4
VO_656_D5
VO_656_D6
VO_656_D7
VO_656_CLK
BCM7038_DVO_23
BCM7038_DVO_22
BCM7038_DVO_21
BCM7038_DVO_12
BCM7038_DVO_13
BCM7038_DVO_14
BCM7038_DVO_15
BCM7038_DVO_16
BCM7038_DVO_17
BCM7038_DVO_18
BCM7038_DVO_19
BCM7038_DVO_20

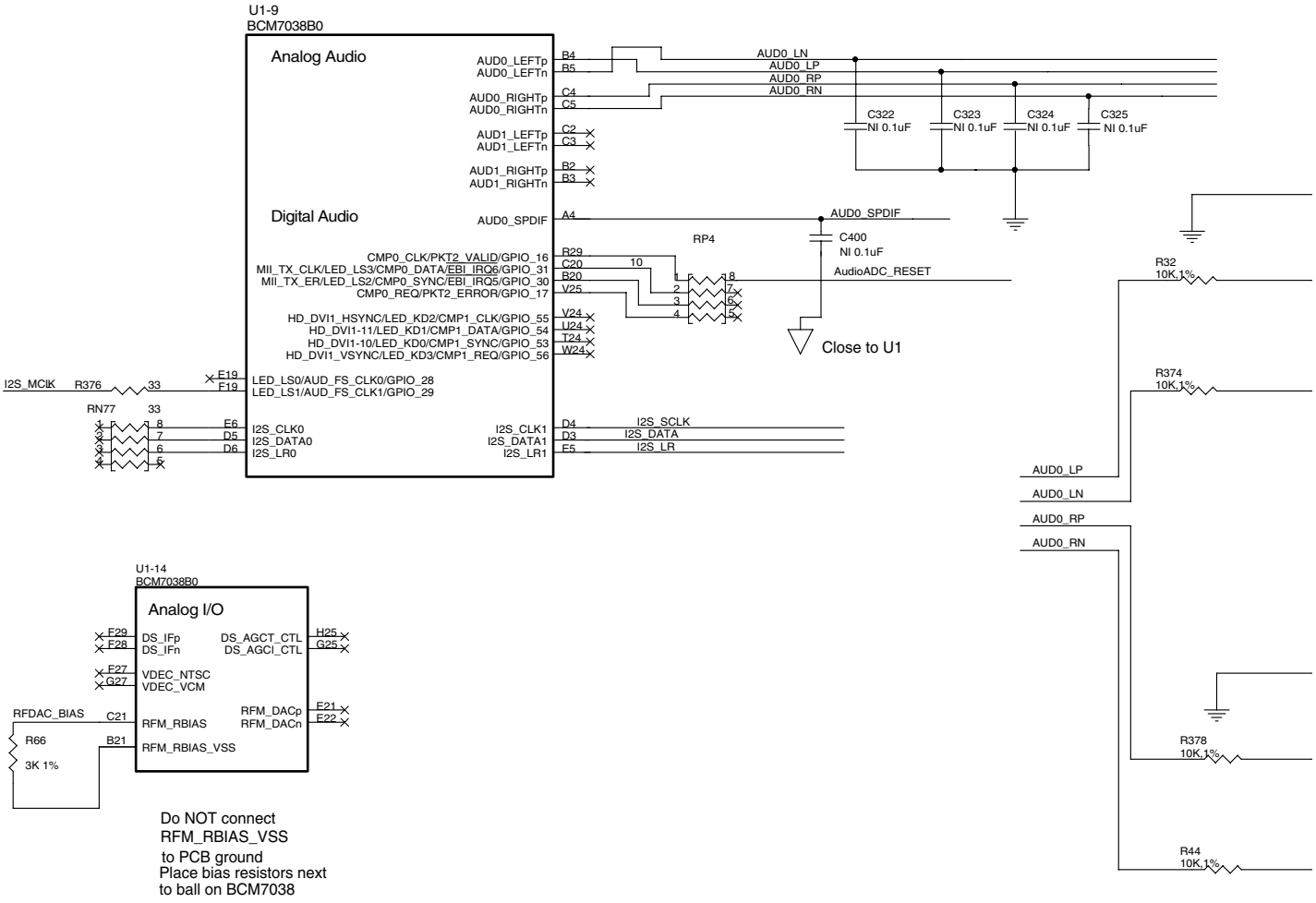

EBI_DATA[15:0] 9
EBI_DATA5
EBI_DATA4
EBI_DATA3
EBI_DATA2
EBI_DATA1
EBI_DATA0
2.7K
RD10
RD11
RD12
RD13
RD14
RD15

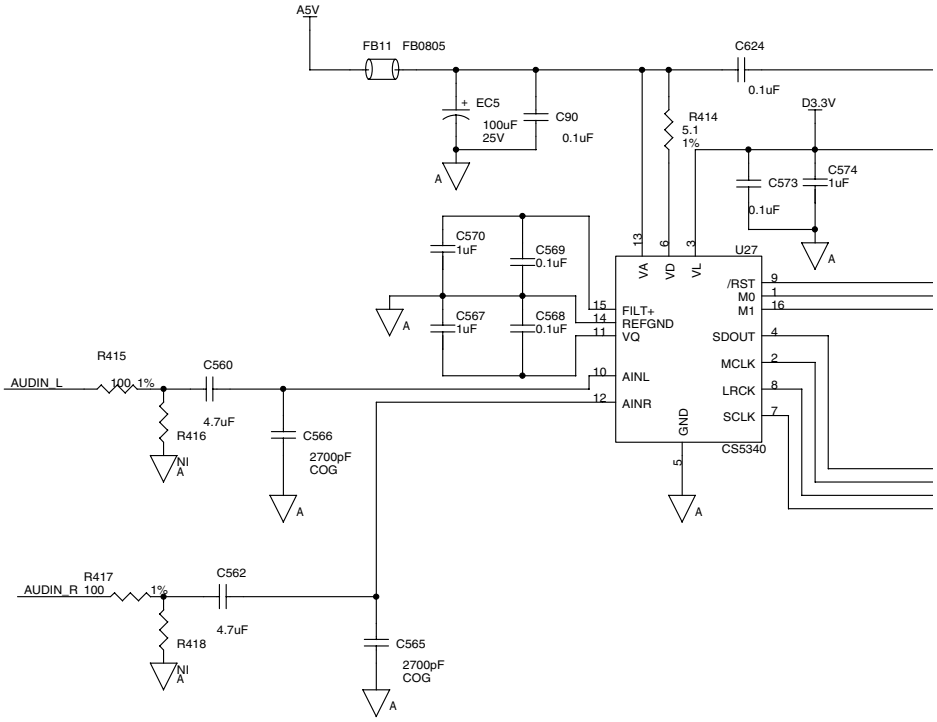

EBI_CSb3_FPGA 9
EBI_CSb2_1394 9
EBI_CSb1_FLASH 9
EBI_CSb0_ROM 9
BCM7038_HSX1_CLK_POD_O_CLK 11
BCM7038_HSX1_DATA_POD_O_DATA0 11
BCM7038_HSX1_SYNC_POD_O_SYNC 11
BCM7038_HSX0_CLK 11
BCM7038_HSX0_DATA 11
BCM7038_HSX0_SYNC 11
VO_656_CLK
VO_656_D0
VO_656_D1
VO_656_D2
VO_656_D3
VO_656_D4
VO_656_D5
VO_656_D6
VO_656_D7
2.7K
RD28
RD29
RD30
RD31
RD32
RD33
RD34

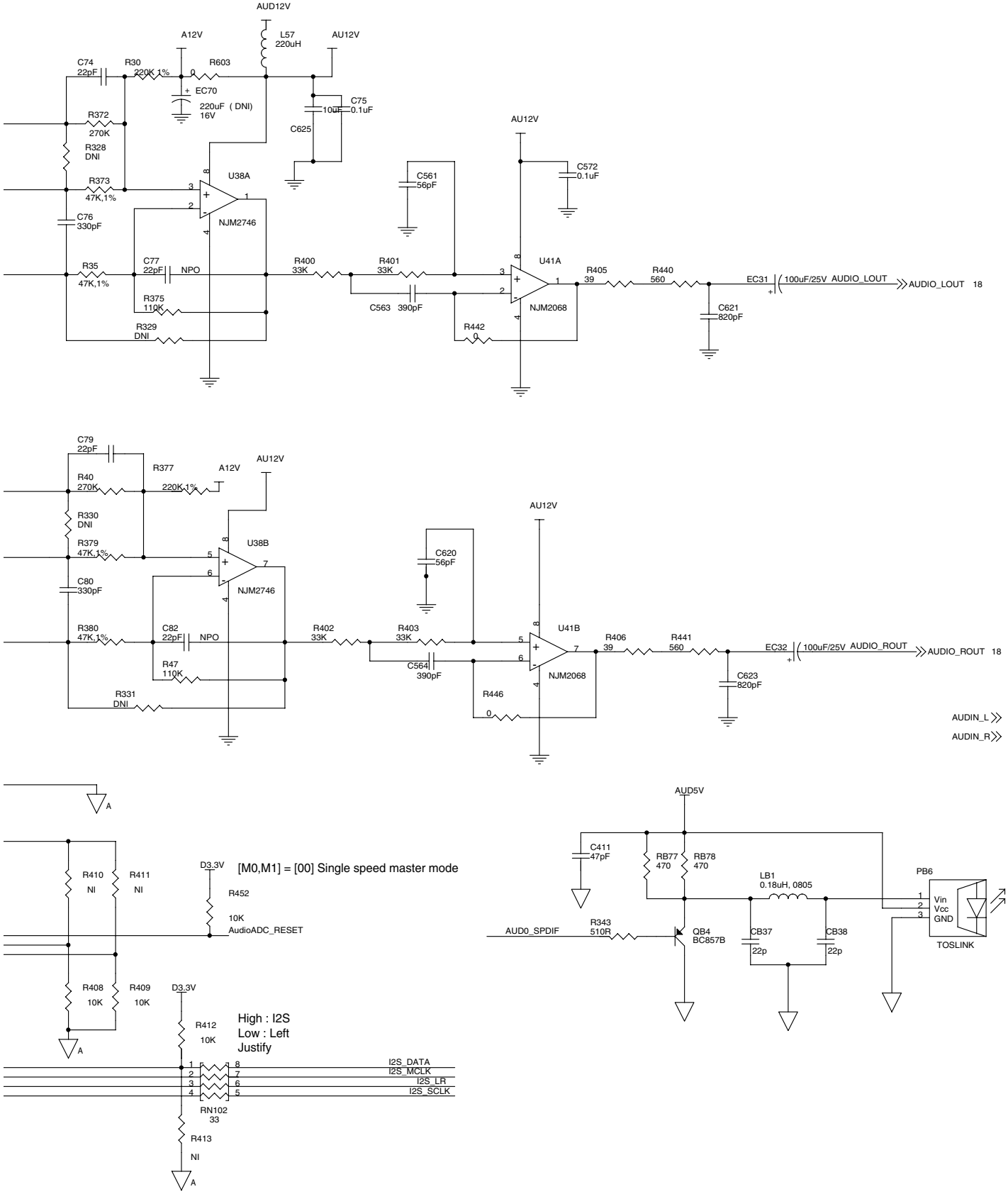
10.20 DTV MB ASSY (4/16)

DTV MB ASSY (4/16)

- AUDIO Buffer BLOCK



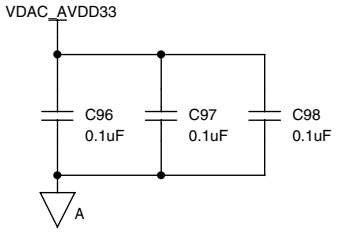



AUD12V
A12V
L57
220uH
AU12V
C74
22pF
R30
220K,1%
R603
EC70
220uF (DNI)
16V
C75
0.1uF
10uF
C625
R372
270K
R328
DNI
U38A
NJM2746
C561
56pF
C572
0.1uF
R373
47K,1%
C76
330pF
R35
47K,1%
C77
22pF
NPO
R400
33K
R401
33K
U41A
NJM2068
R405
39
R440
560
EC31
100uF/25V
AUDIO_LOUT
AUDIO_LOUT 18
C621
820pF
R375
110K
R329
DNI
C563 390pF
R442
0
C79
22pF
R377
A12V
AU12V
R40
270K
220K,1%
R330
DNI
R379
47K,1%
U38B
NJM2746
C620
56pF
C80
330pF
R380
47K,1%
C82
22pF
NPO
R402
33K
R403
33K
U41B
NJM2068
R406
39
R441
560
EC32
100uF/25V
AUDIO_ROUT
AUDIO_ROUT 18
C623
820pF
R47
110K
R331
DNI
C564
390pF
R446
0
AUDIN_L
AUDIN_R
A
R410
NI
R411
NI
D3.3V
[M0,M1] = [00] Single speed master mode
R452
10K
AudioADC_RESET
R408
10K
R409
10K
D3.3V
R412
10K
High : I2S
Low : Left
Justify
I2S_DATA
I2S_MCLK
I2S_LR
I2S_SCLK
RN102
33
R413
NI
A
AUD5V
C411
47pF
RB77
470
RB78
470
LB1
0.18uH, 0805
PB6
Vin
Vcc
GND
TOSLINK
AUD0_SPDIF
R343
510R
QB4
BC857B
CB37
22p
CB38
22p

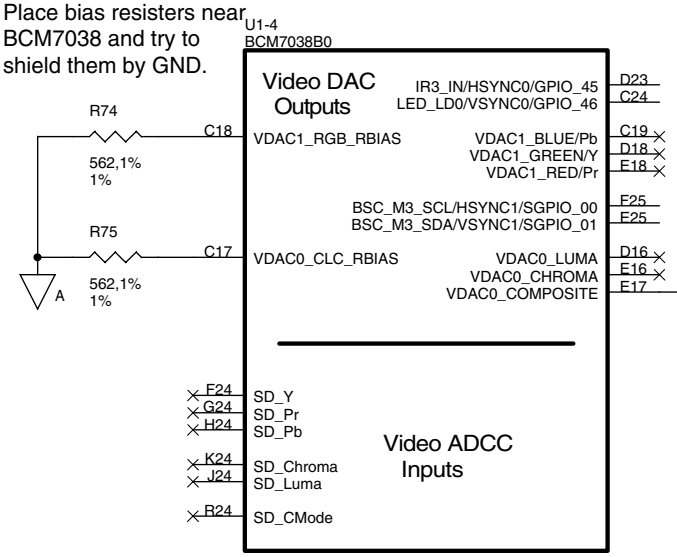
10.21 DTV MB ASSY (5/16)

DTV MB ASSY (5/16)

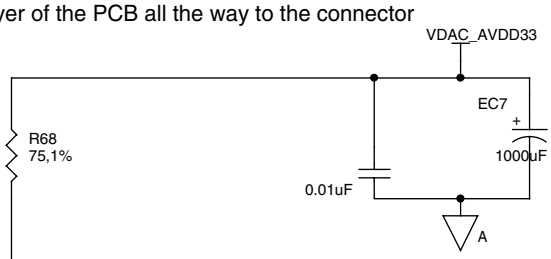
- Video DAC output BLOCK

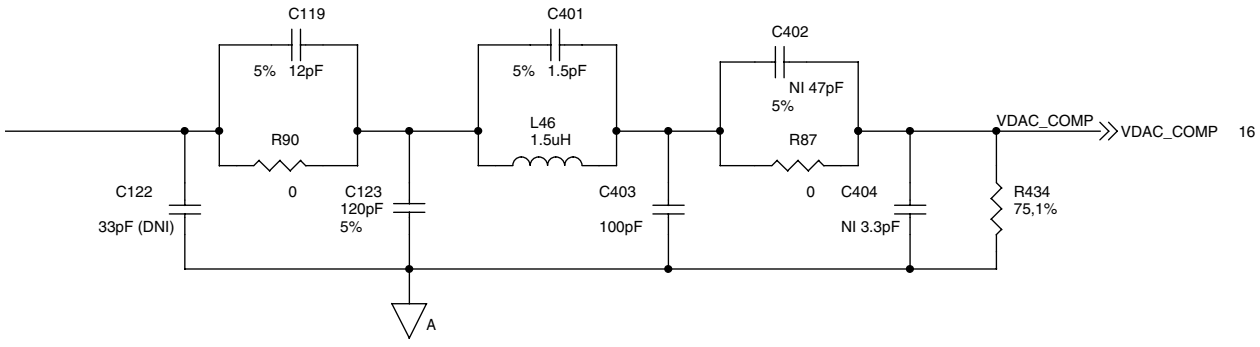


Place bias resisters near BCM7038 and try to shield them by GND.



Route VDAC_AVDD33 as a wide trace or fill area on the top layer of the PCB all the way to the connector

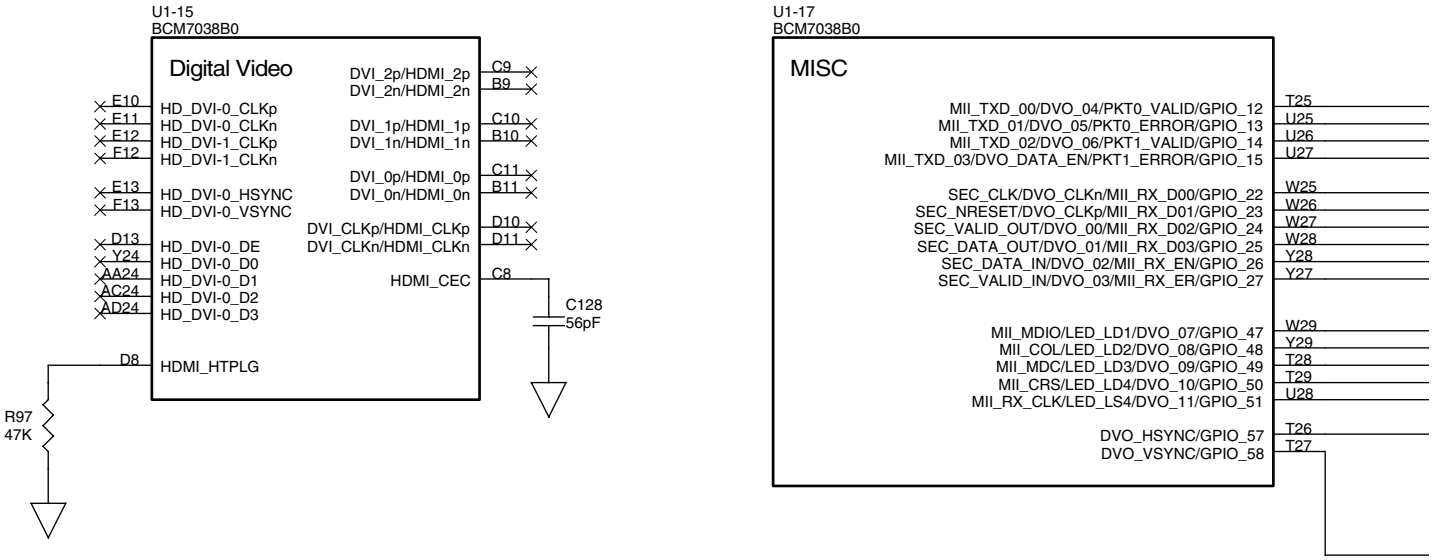



C119
5% 12pF
R90
0
C401
5% 1.5pF
L46
1.5uH
C402
NI 47pF
5%
R87
0
VDAC_COMP
VDAC_COMP 16
C122
33pF (DNI)
C123
120pF
5%
C403
100pF
C404
NI 3.3pF
R434
75,1%
A

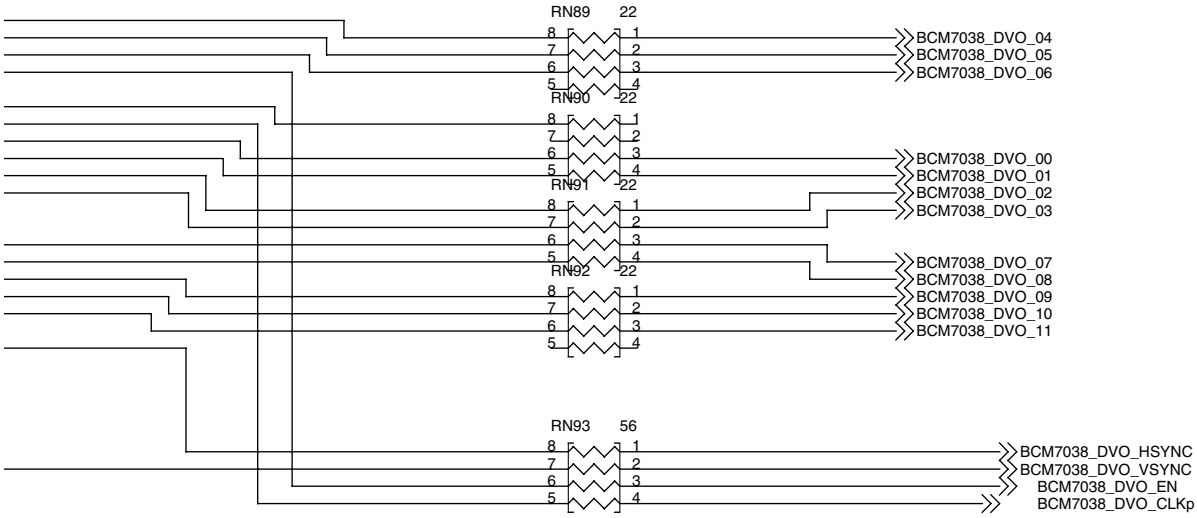
10.22 DTV MB ASSY (6/16)

DTV MB ASSY (6/16)

• DVO BLOCK



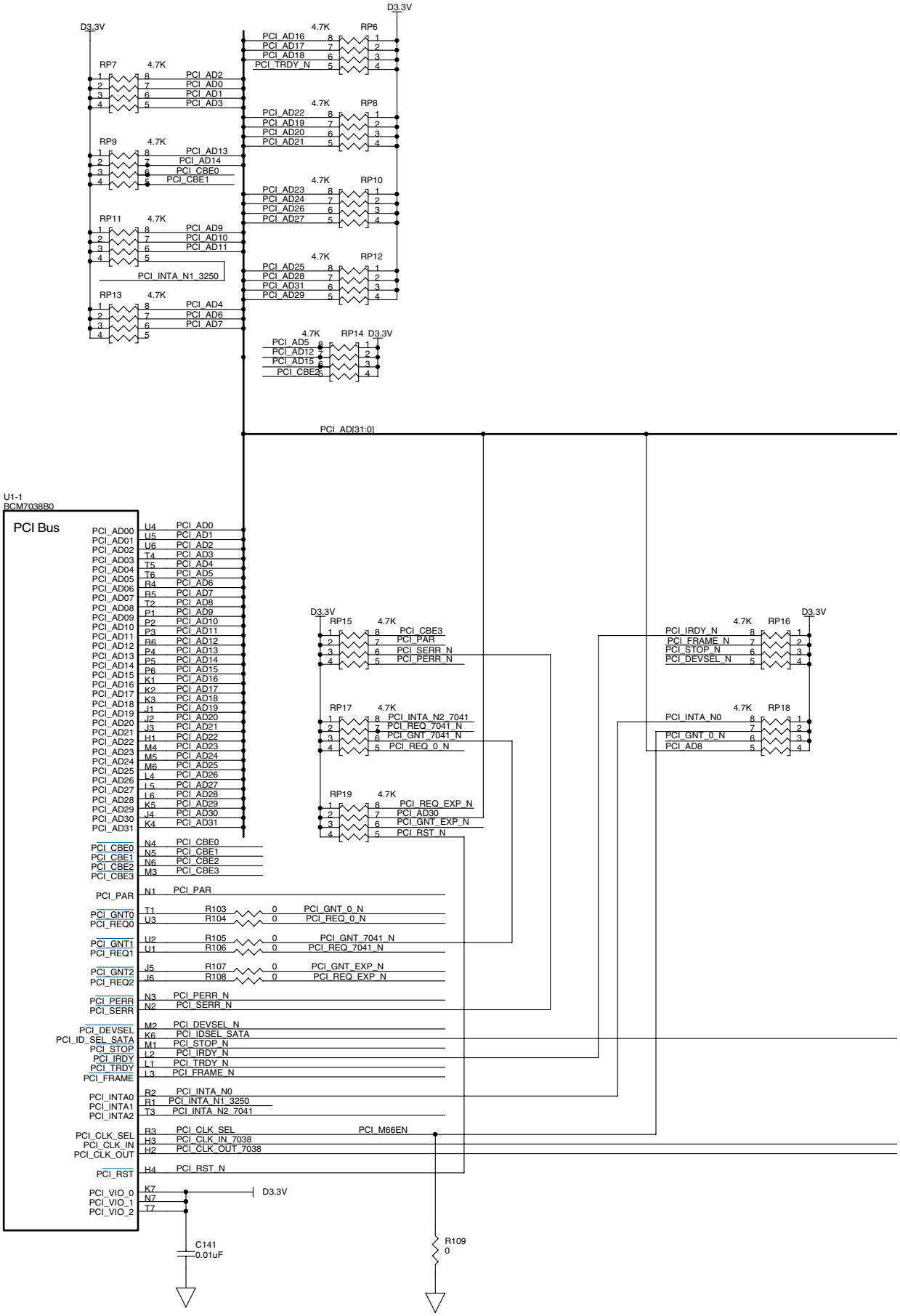
Place series resistors close to U1

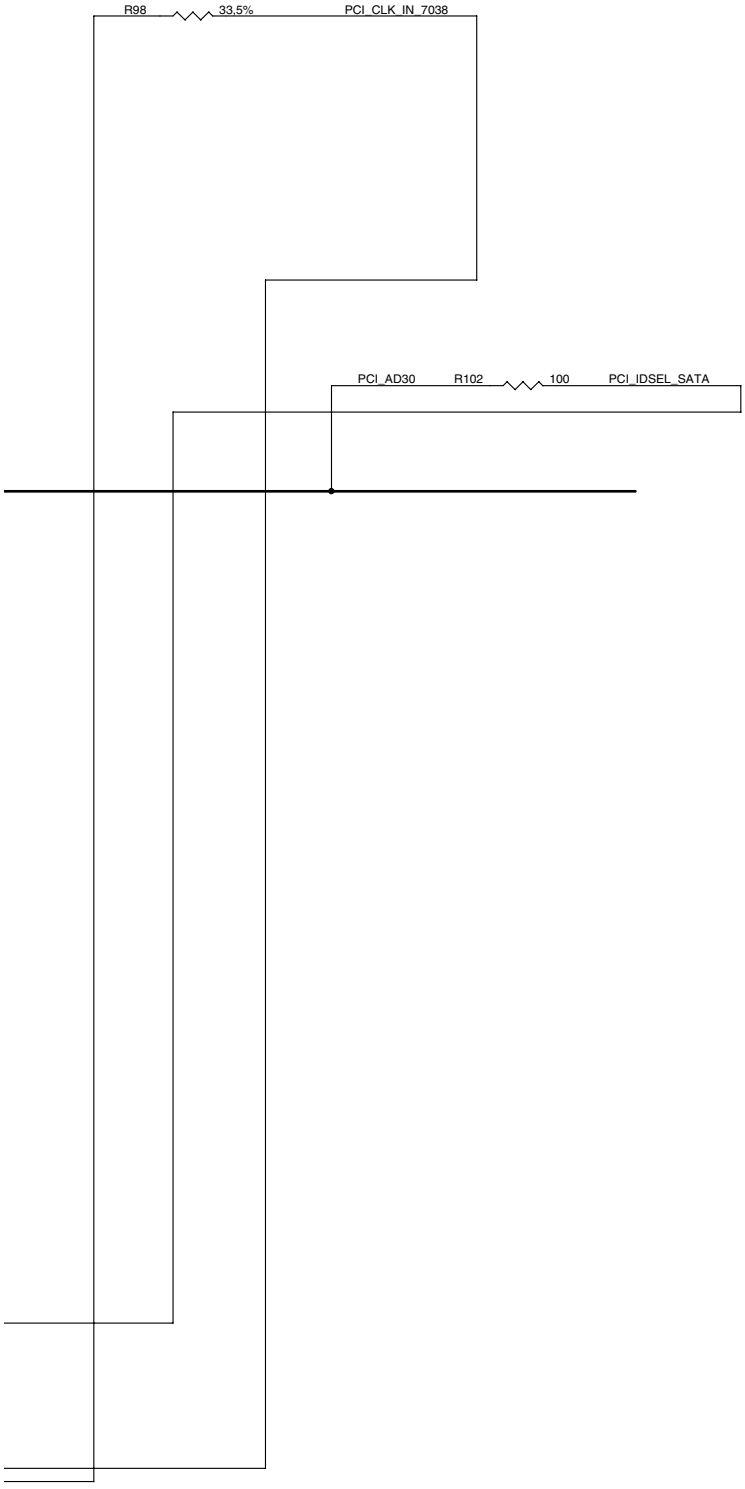


10.23 DTV MB ASSY (7/16)

DTV MB ASSY (7/16)

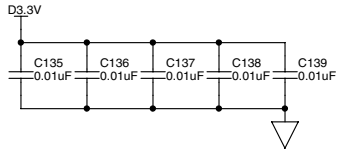
• PCI BLOCK





Place one of each of these

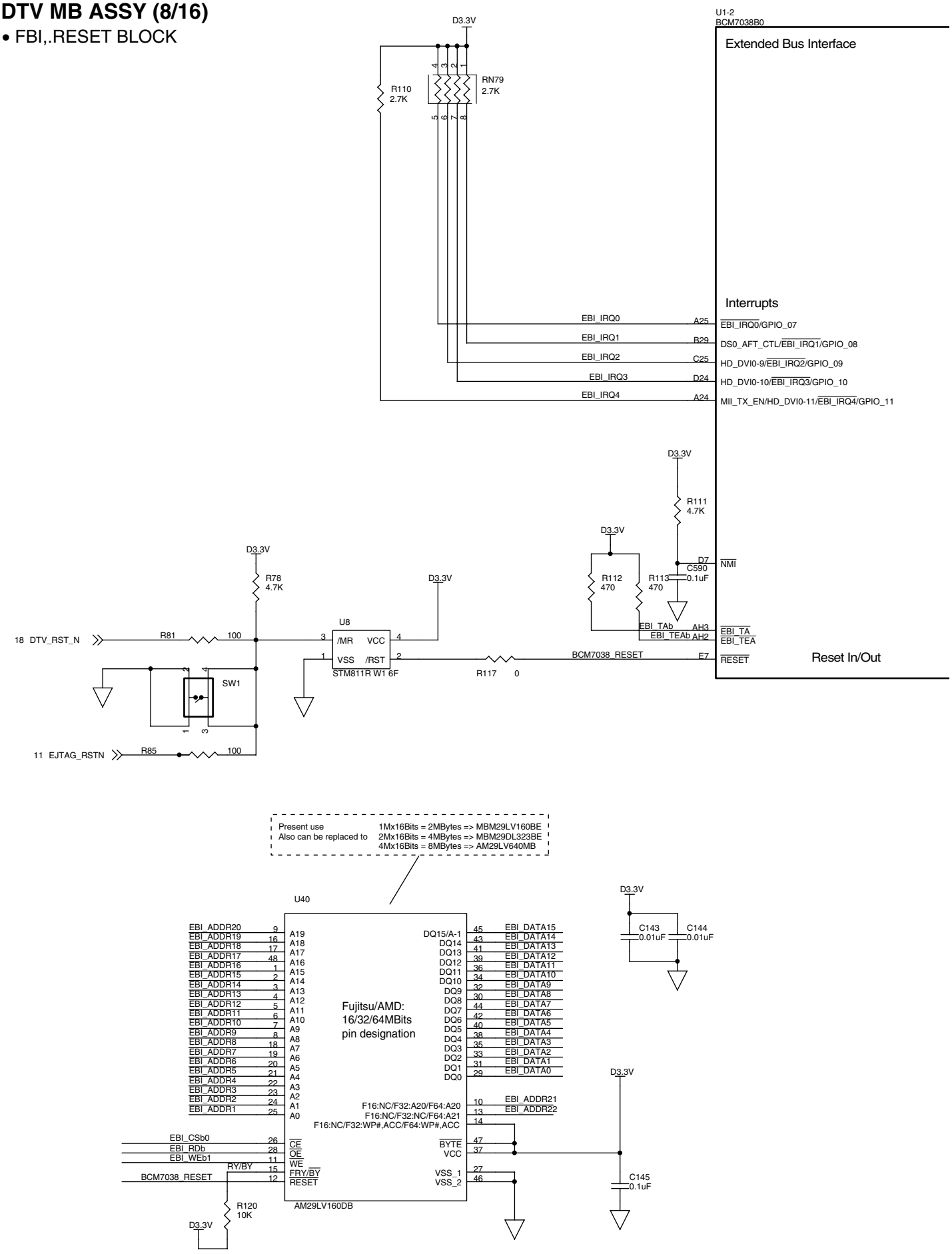
the VI/O pins: B19, B59,
A59, A16, and A10

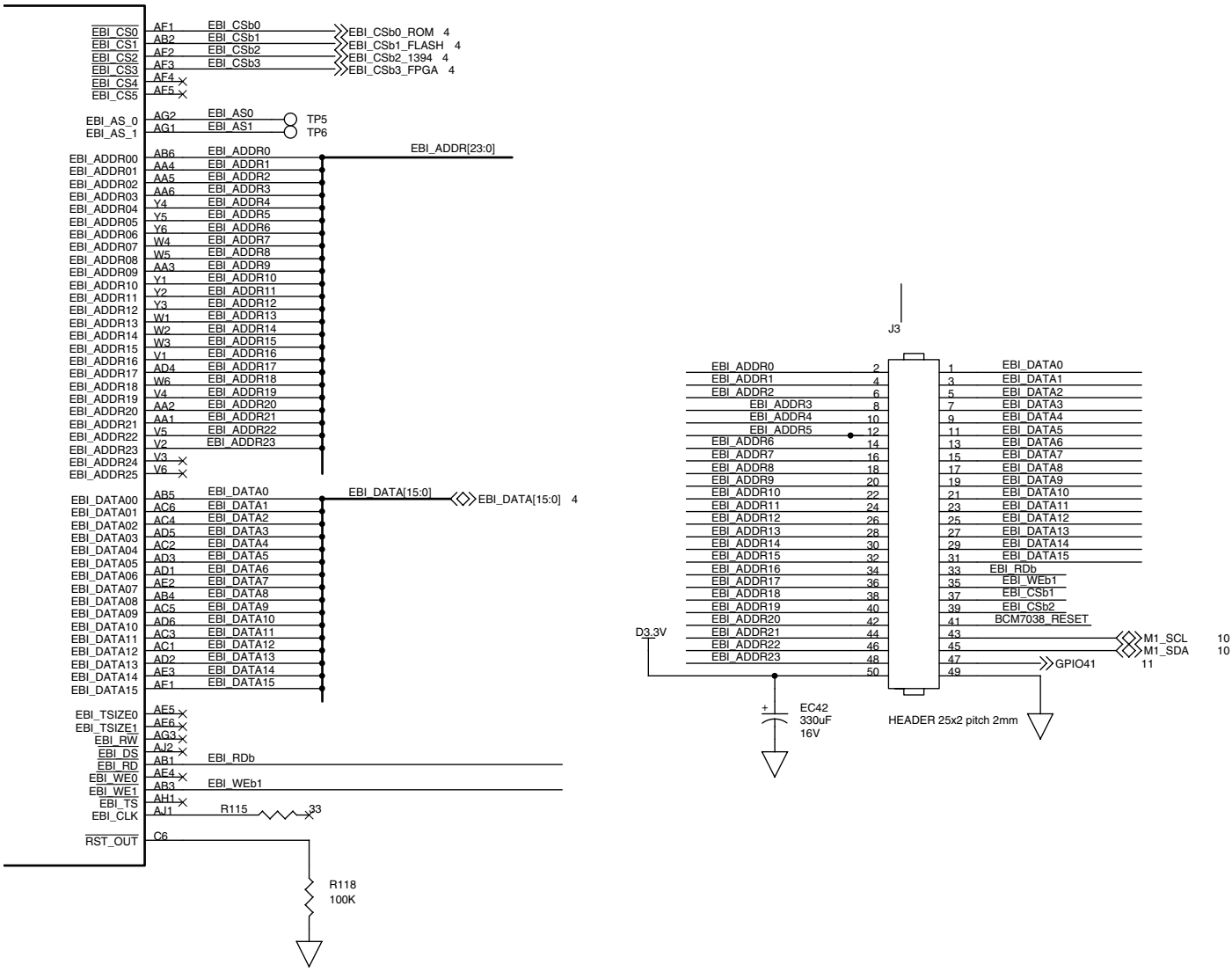


10.24 DTV MB ASSY (8/16)

DTV MB ASSY (8/16)

• FBI,.RESET BLOCK

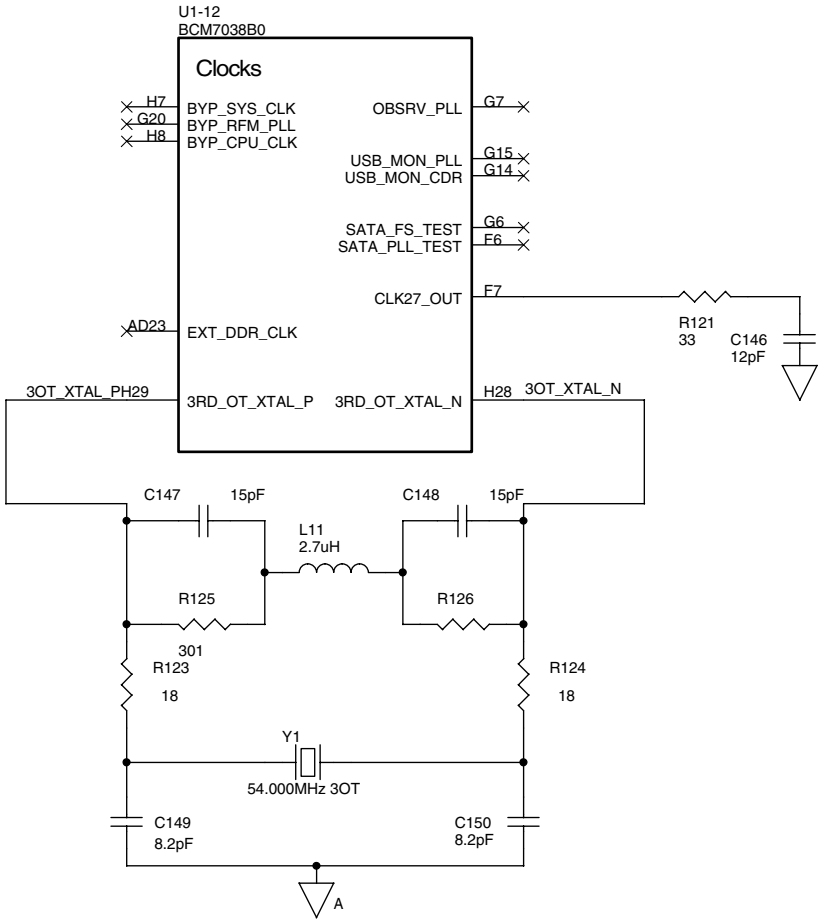


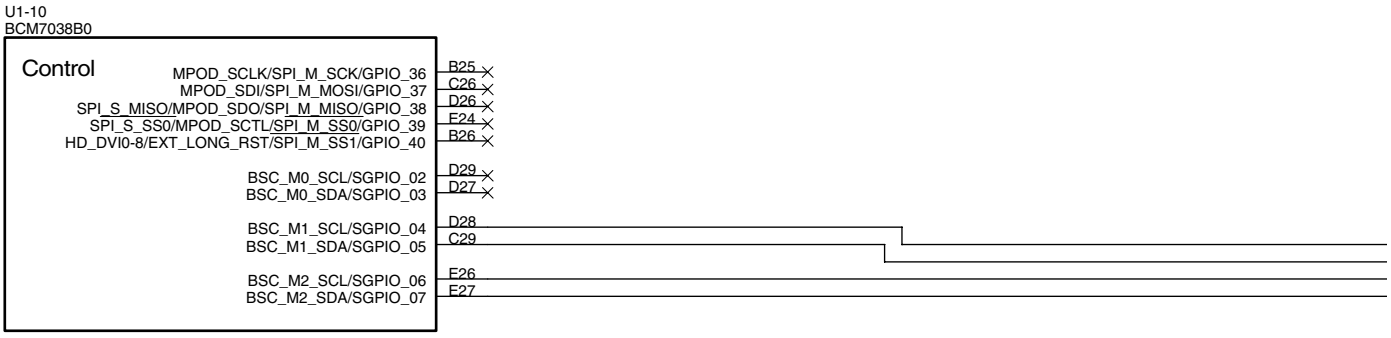

EBI_CS0
EBI_CS1
EBI_CS2
EBI_CS3
EBI_CS4
EBI_CS5
EBI_CSb0
EBI_CSb1
EBI_CSb2
EBI_CSb3
EBI_CSb0_ROM 4
EBI_CSb1_FLASH 4
EBI_CSb2_1394 4
EBI_CSb3_FPGA 4
EBI_AS_0
EBI_AS_1
EBI_AS0
EBI_AS1
TP5
TP6
EBI_ADDR[23:0]
EBI_ADDR00
EBI_ADDR01
EBI_ADDR02
EBI_ADDR03
EBI_ADDR04
EBI_ADDR05
EBI_ADDR06
EBI_ADDR07
EBI_ADDR08
EBI_ADDR09
EBI_ADDR10
EBI_ADDR11
EBI_ADDR12
EBI_ADDR13
EBI_ADDR14
EBI_ADDR15
EBI_ADDR16
EBI_ADDR17
EBI_ADDR18
EBI_ADDR19
EBI_ADDR20
EBI_ADDR21
EBI_ADDR22
EBI_ADDR23
EBI_ADDR24
EBI_ADDR25
EBI_DATA[15:0]
EBI_DATA[15:0] 4
EBI_DATA00
EBI_DATA01
EBI_DATA02
EBI_DATA03
EBI_DATA04
EBI_DATA05
EBI_DATA06
EBI_DATA07
EBI_DATA08
EBI_DATA09
EBI_DATA10
EBI_DATA11
EBI_DATA12
EBI_DATA13
EBI_DATA14
EBI_DATA15
EBI_TSIZE0
EBI_TSIZE1
EBI_RW
EBI_DS
EBI_RD
EBI_WE0
EBI_WE1
EBI_TS
EBI_CLK
EBI_RDb
EBI_WEb1
R115
33
RST_OUT
R118
100K
J3
D3.3V
EC42
330uF
16V
HEADER 25x2 pitch 2mm
BCM7038_RESET
M1_SCL 10
M1_SDA 10
GPIO41 11

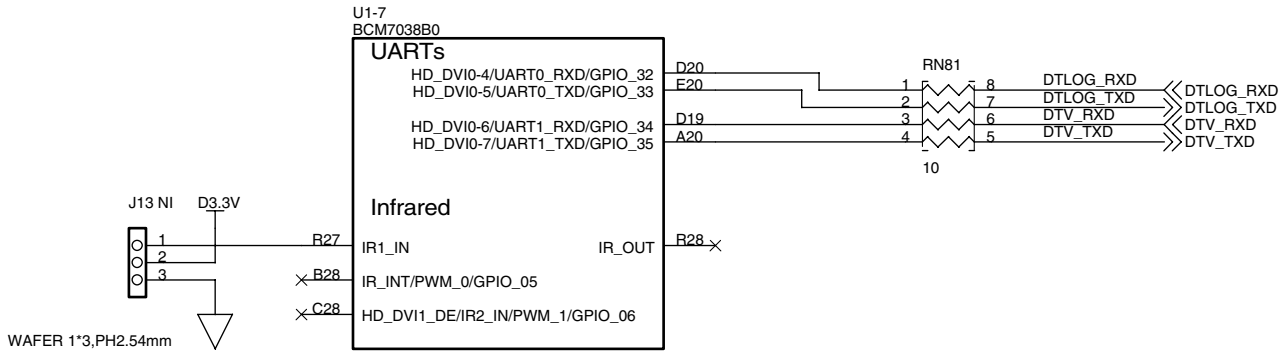
10.25 DTV MB ASSY (9/16)

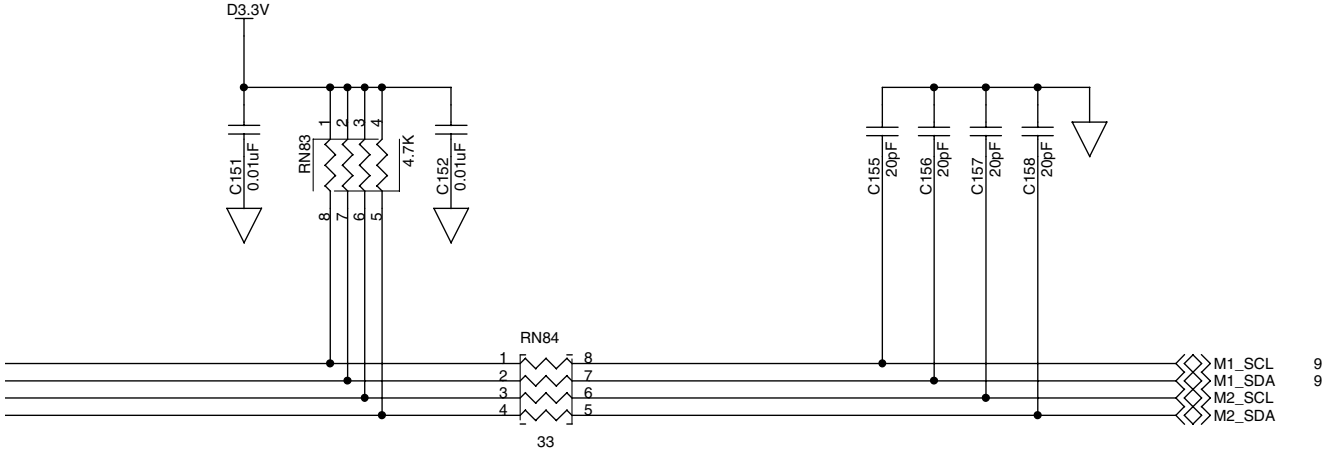
DTV MB ASSY (9/16)

• I2C,.UART,.CLK BLOCK

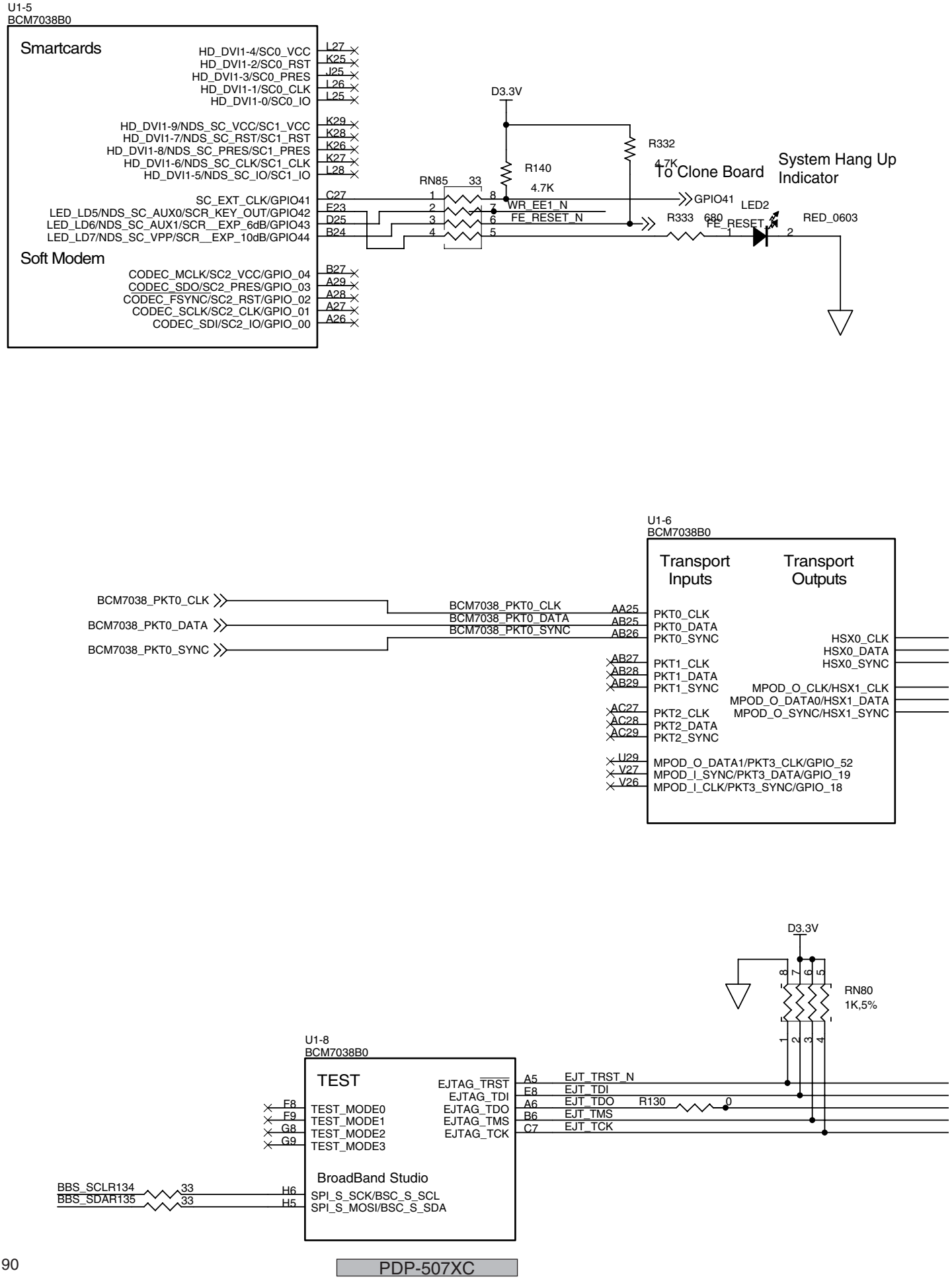





U1-7
BCM7038B0
UARTs
HD_DVI0-4/UART0_RXD/GPIO_32
HD_DVI0-5/UART0_TXD/GPIO_33
HD_DVI0-6/UART1_RXD/GPIO_34
HD_DVI0-7/UART1_TXD/GPIO_35
D20
E20
D19
A20
RN81
10
DTLOG_RXD
DTLOG_TXD
DTV_RXD
DTV_TXD
Infrared
IR1_IN
IR_OUT
IR_INT/PWM_0/GPIO_05
HD_DVI1_DE/IR2_IN/PWM_1/GPIO_06
R27
R28
B28
C28
J13 NI
D3.3V
WAFER 1*3,PH2.54mm

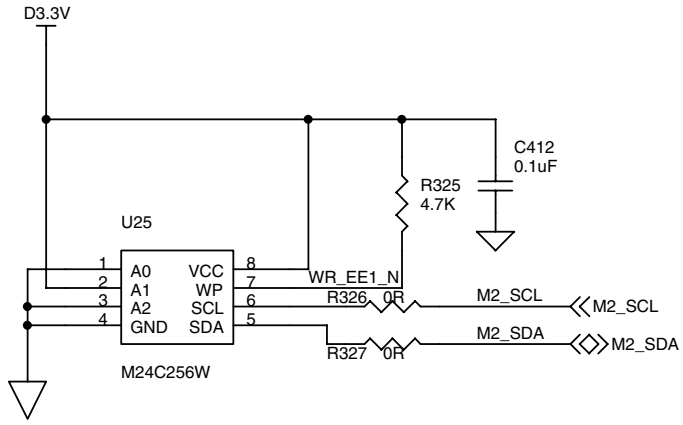

D3.3V
C151
0.01uF
RN83
4.7K
C152
0.01uF
C155
20pF
C156
20pF
C157
20pF
C158
20pF
RN84
33
M1_SCL
M1_SDA
M2_SCL
M2_SDA

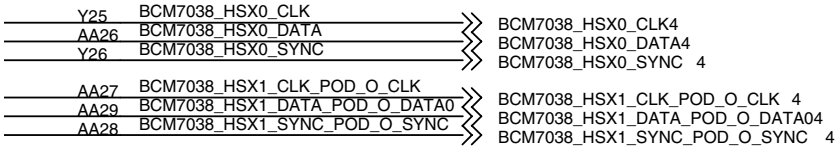
10.26 DTV MB ASSY (10/16)

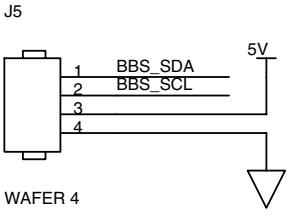


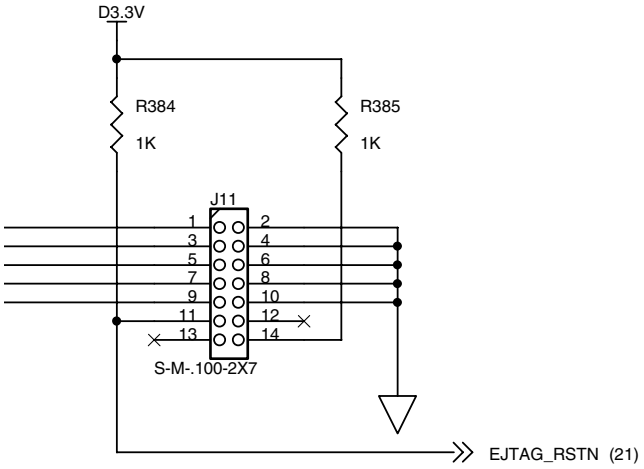
DTV MB ASSY (10/16)

• EJTAG,.TS,.EEPROMBLOCK







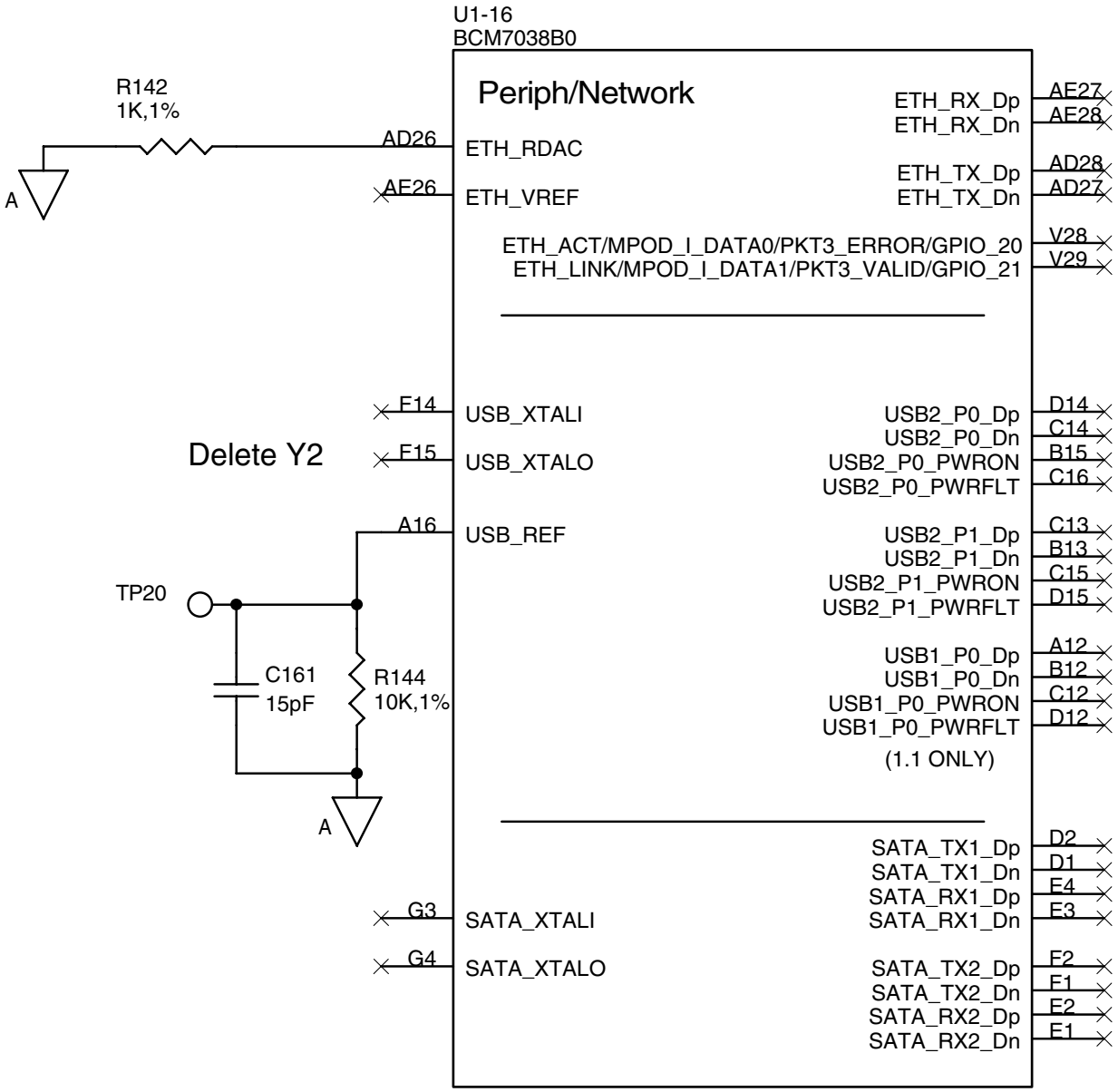


10.27 DTV MB ASSY (11/16)

DTV MB ASSY (11/16)

- USB;Ethernet;Sata BLOCK

Route TXP/M and RXP/M pairs differentially, matched short lengths, with 100 ohm differential impedance, adjacent to ground plane.



Stitch GND around
XTAL and caps inside
GND layer cutout

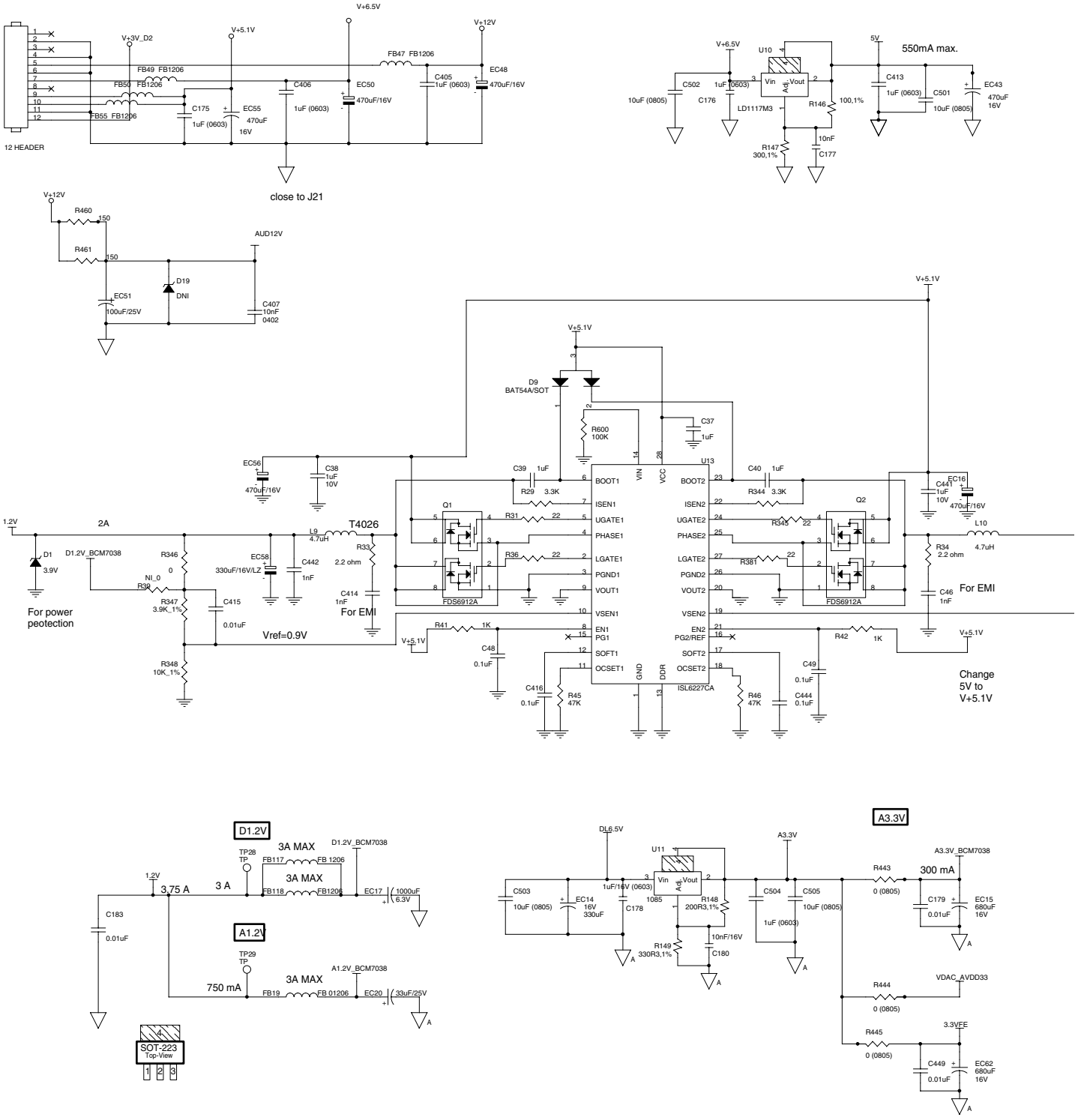
SATA & USB - Layout Guidelines & Notes

1. The Dp and Dn traces are length matched, with max differential skew, within 20mils
2. Differential trace length must be less than 5 inches
3. No more than 2 vias per trace, prefer zero.
4. Never split the ground plane under differential pair routing
5. Route differential pairs above the GND plane.
6. Differential impedance is 100 Ohms for SATA and 90 ohms for USB.
7. Adjacent differential pairs should be separated by at least 3 times the trace width. (e.g. 7.5 mil trace, leave >22.5mils between adjacent diff pairs)
8. Stich gnd vias around each differential pair, but NOT between a given pair.
9. SATA xtal +/- 50 ppm Tolerance +/- 100 ppm Stability

10.28 DTV MB ASSY (12/16)

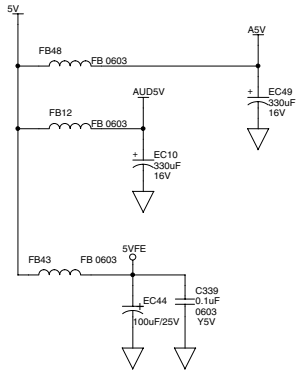
DTV MB ASSY (12/16)

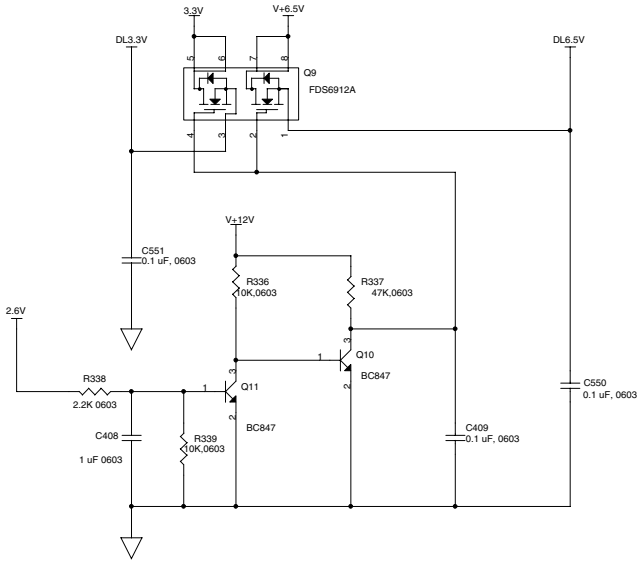
• POWER BLOCK

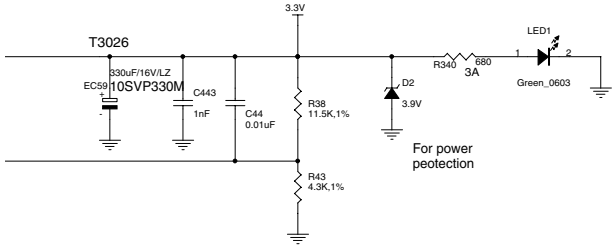


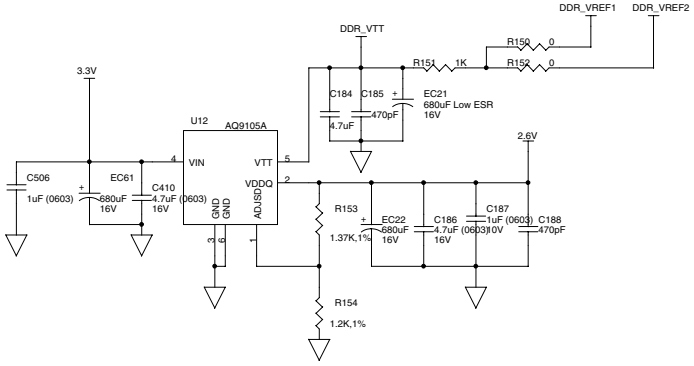
R448 0 (0805)
R449 0 (0805) DNI
R450 0 (0805)
R451 0 (0805) DNI

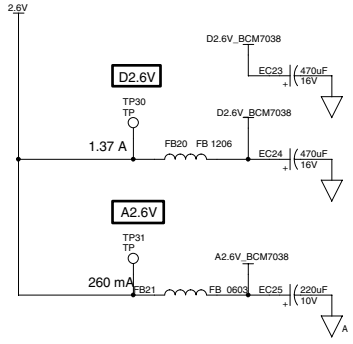
DDR Screw hole isolate to DGN add 4 Resistor to DGN.

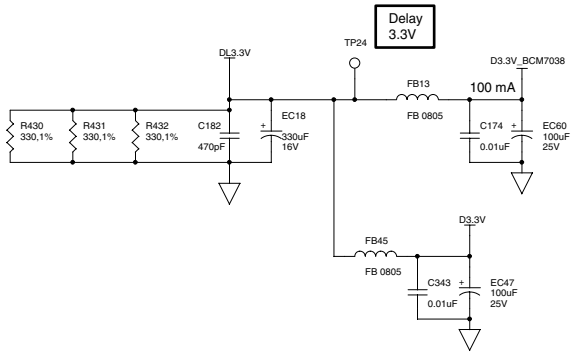

5V
FB48
FB 0603
A5V
EC49
330uF
16V
AUD5V
FB12
FB 0603
EC10
330uF
16V
FB43
FB 0603
5VFE
EC44
100uF/25V
C339
0.1uF
0603
Y5V


3.3V
V+6.5V
DL3.3V
DL6.5V
Q9
FDS6912A
V+12V
C551
0.1 uF, 0603
R336
10K,0603
R337
47K,0603
2.6V
Q10
BC847
R338
2.2K 0603
Q11
BC847
C550
0.1 uF, 0603
C408
1 uF 0603
R339
10K,0603
C409
0.1 uF, 0603


T3026
3.3V
330uF/16V/LZ
EC59
10SVP330M
C443
1nF
C44
0.01uF
R38
11.5K,1%
R43
4.3K,1%
R340
680
3A
LED1
Green_0603
D2
3.9V
For power
peotection


DDR_VREF1
DDR_VREF2
DDR_VTT
R150
0
R151
1K
R152
0
3.3V
C184
4.7uF
C185
470pF
EC21
680uF Low ESR
16V
U12
AQ9105A
2.6V
VIN
VTT
VDDQ
GND
GND
ADJSD
C506
1uF (0603)
EC61
680uF
16V
C410
4.7uF (0603)
16V
R153
1.37K,1%
EC22
680uF
16V
C186
4.7uF (0603)
16V
C187
1uF (0603)
10V
C188
470pF
R154
1.2K,1%

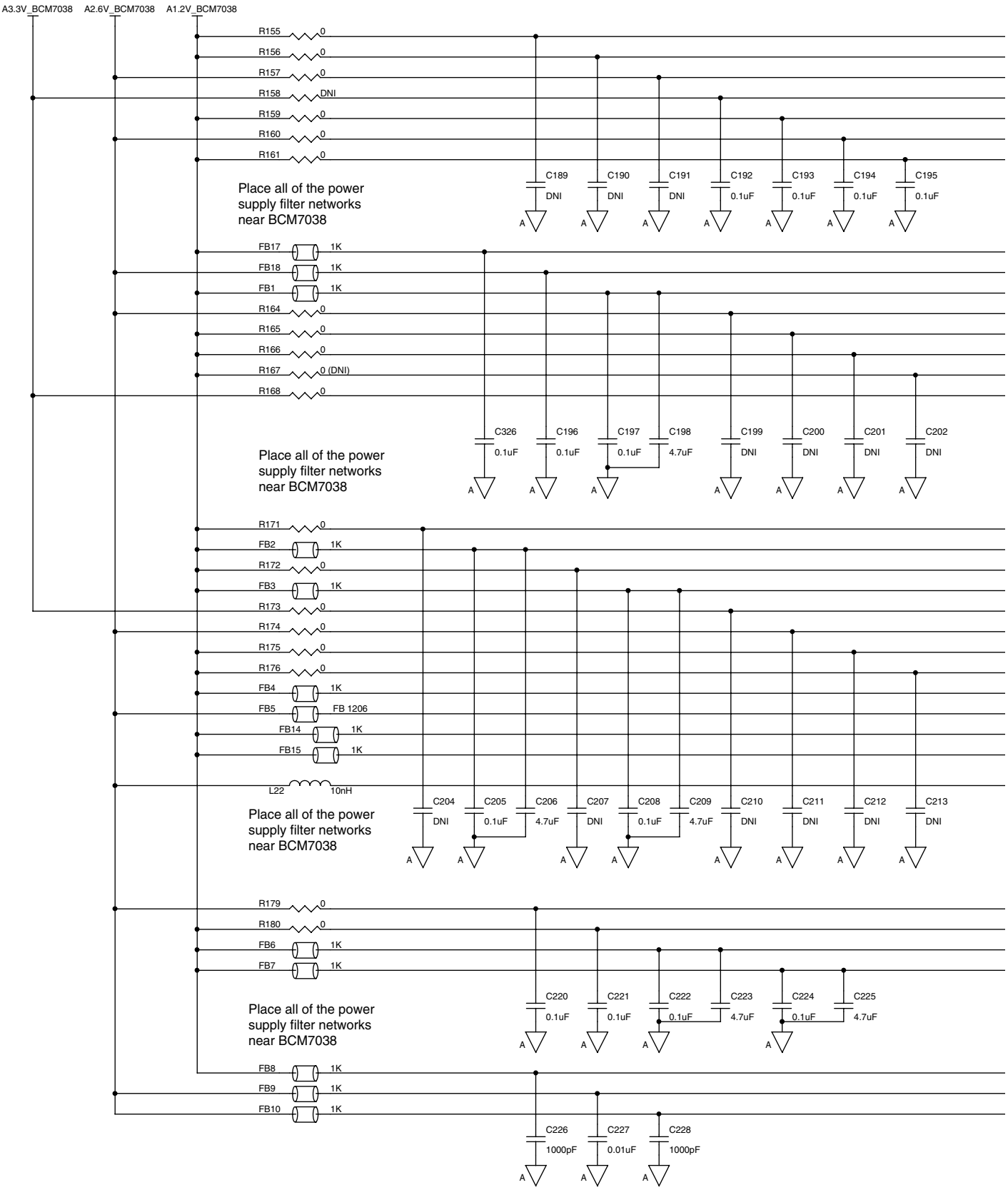

2.6V
D2.6V
TP30
TP
1.37 A
D2.6V_BCM7038
FB20
FB 1206
EC23
470uF
16V
EC24
470uF
16V
A2.6V
TP31
TP
260 mA
A2.6V_BCM7038
FB21
FB 0603
EC25
220uF
10V

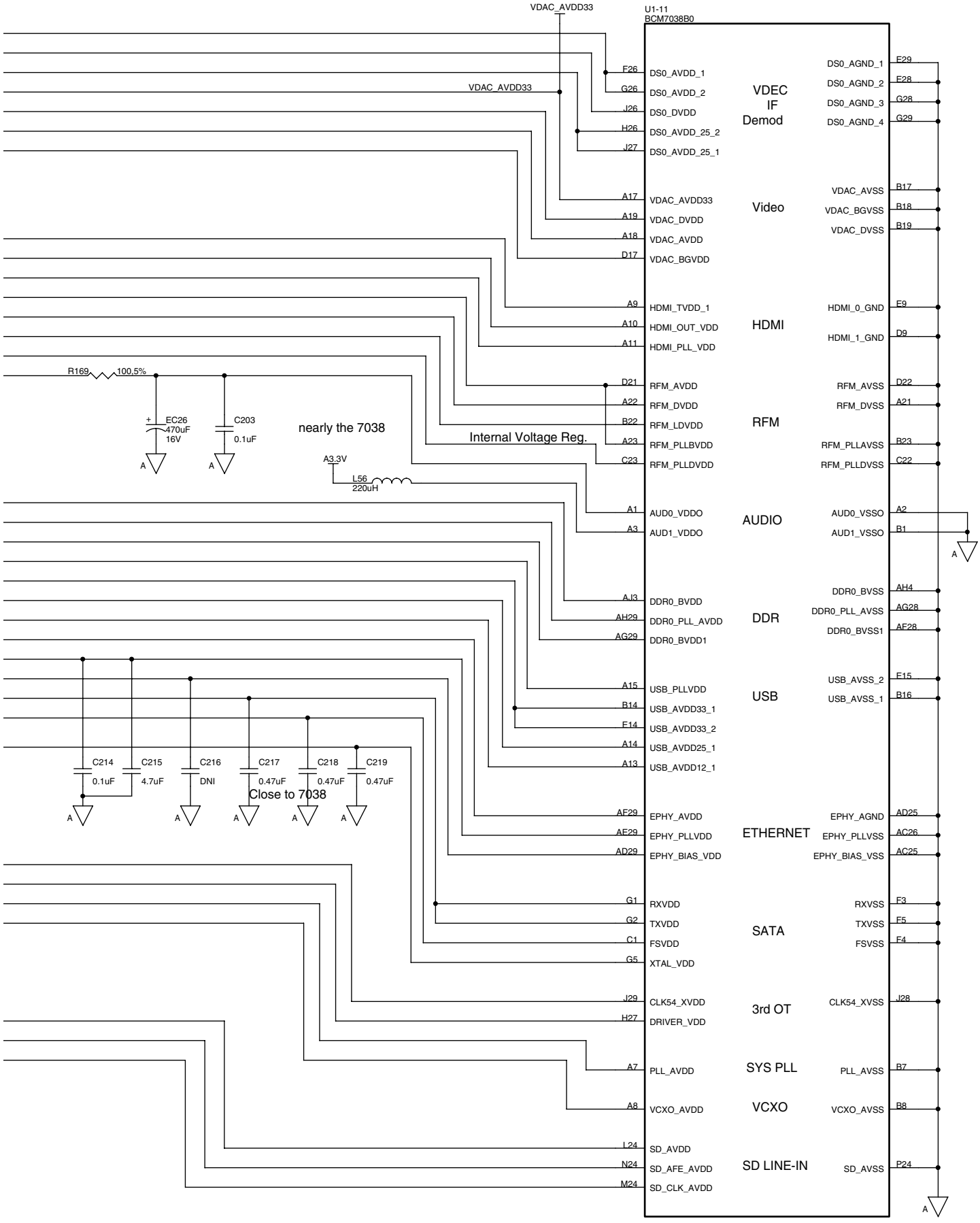

Delay
3.3V
TP24
DL3.3V
D3.3V_BCM7038
FB13
FB 0805
100 mA
R430
330,1%
R431
330,1%
R432
330,1%
C182
470pF
EC18
330uF
16V
C174
0.01uF
EC60
100uF
25V
D3.3V
FB45
FB 0805
C343
0.01uF
EC47
100uF
25V

10.29 DTV MB ASSY (13/16)

DTV MB ASSY (13/16)

• Analog Decoupling BLOCK

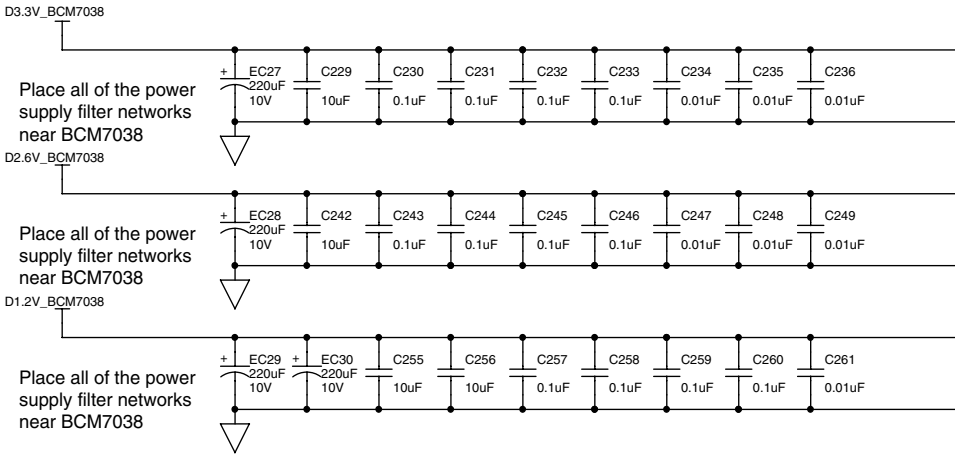


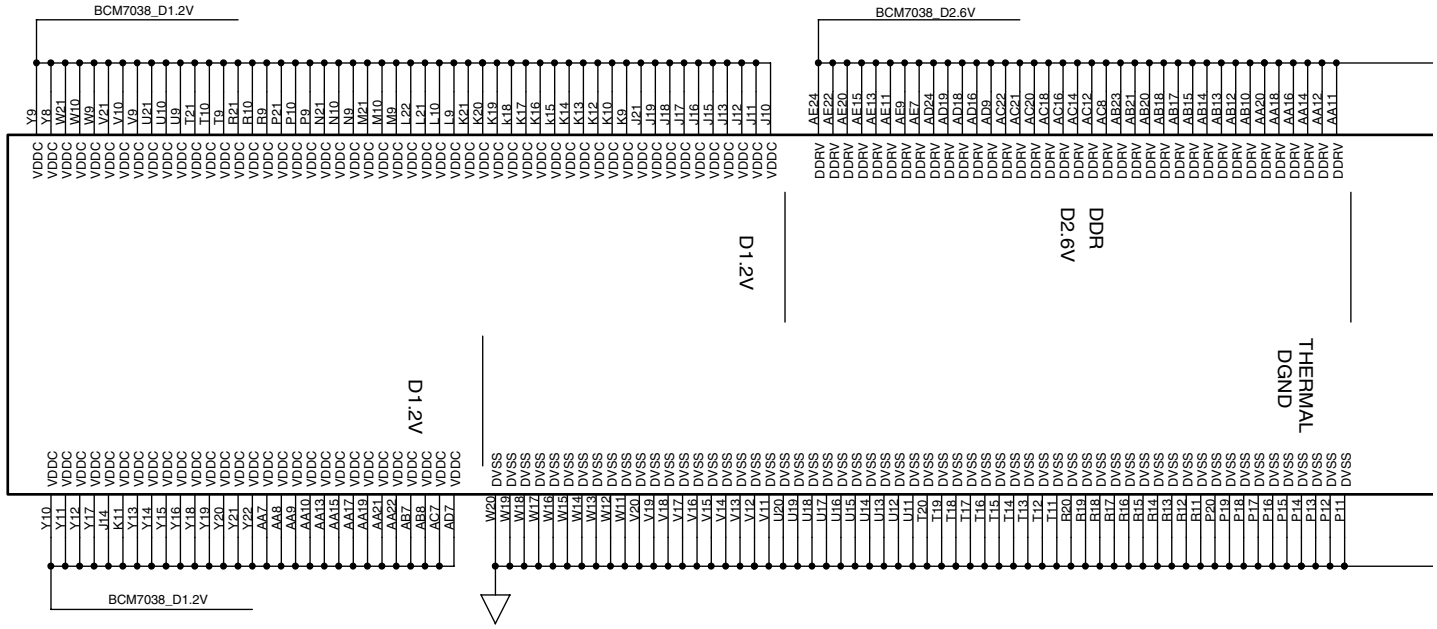

U1-11
BCM7038B0
VDAC_AVDD33
VDEC
IF
Demod
Video
HDMI
RFM
AUDIO
DDR
USB
ETHERNET
SATA
3rd OT
SYS PLL
VCXO
SD LINE-IN
F26 DS0_AVDD_1
G26 DS0_AVDD_2
J26 DS0_DVDD
H26 DS0_AVDD_25_2
J27 DS0_AVDD_25_1
A17 VDAC_AVDD33
A19 VDAC_DVDD
A18 VDAC_AVDD
D17 VDAC_BGVDD
A9 HDMI_TVDD_1
A10 HDMI_OUT_VDD
A11 HDMI_PLL_VDD
D21 RFM_AVDD
A22 RFM_DVDD
B22 RFM_LDVDD
A23 RFM_PLLBVDD
C23 RFM_PLLDVDD
A1 AUD0_VDDO
A3 AUD1_VDDO
AJ3 DDR0_BVDD
AH29 DDR0_PLL_AVDD
AG29 DDR0_BVDD1
A15 USB_PLLVDD
B14 USB_AVDD33_1
E14 USB_AVDD33_2
A14 USB_AVDD25_1
A13 USB_AVDD12_1
AF29 EPHY_AVDD
AE29 EPHY_PLLVDD
AD29 EPHY_BIAS_VDD
G1 RXVDD
G2 TXVDD
C1 FSVDD
G5 XTAL_VDD
J29 CLK54_XVDD
H27 DRIVER_VDD
A7 PLL_AVDD
A8 VCXO_AVDD
L24 SD_AVDD
N24 SD_AFE_AVDD
M24 SD_CLK_AVDD
DS0_AGND_1 E29
DS0_AGND_2 E28
DS0_AGND_3 G28
DS0_AGND_4 G29
VDAC_AVSS B17
VDAC_BGVSS B18
VDAC_DVSS B19
HDMI_0_GND E9
HDMI_1_GND D9
RFM_AVSS D22
RFM_DVSS A21
RFM_PLLAVSS B23
RFM_PLLDVSS C22
AUD0_VSSO A2
AUD1_VSSO B1
DDR0_BVSS AH4
DDR0_PLL_AVSS AG28
DDR0_BVSS1 AF28
USB_AVSS_2 E15
USB_AVSS_1 B16
EPHY_AGND AD25
EPHY_PLLVSS AC26
EPHY_BIAS_VSS AC25
RXVSS F3
TXVSS F5
FSVSS F4
CLK54_XVSS J28
PLL_AVSS B7
VCXO_AVSS B8
SD_AVSS P24
R169 100,5%
EC26 470uF 16V
C203 0.1uF
nearly the 7038
Internal Voltage Reg.
A3.3V
L56 220uH
C214 0.1uF
C215 4.7uF
C216 DNI
C217 0.47uF
C218 0.47uF
C219 0.47uF
Close to 7038

10.30 DTV MB ASSY (14/16)

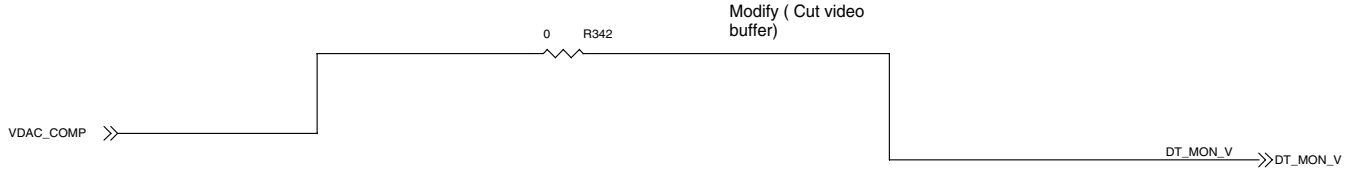
DTV MB ASSY (14/16)

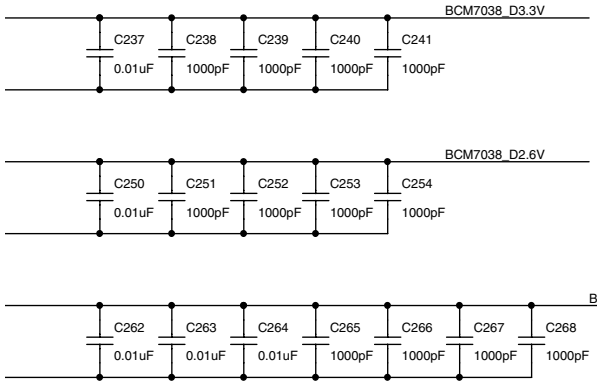
• Digital DecouplingBLOCK

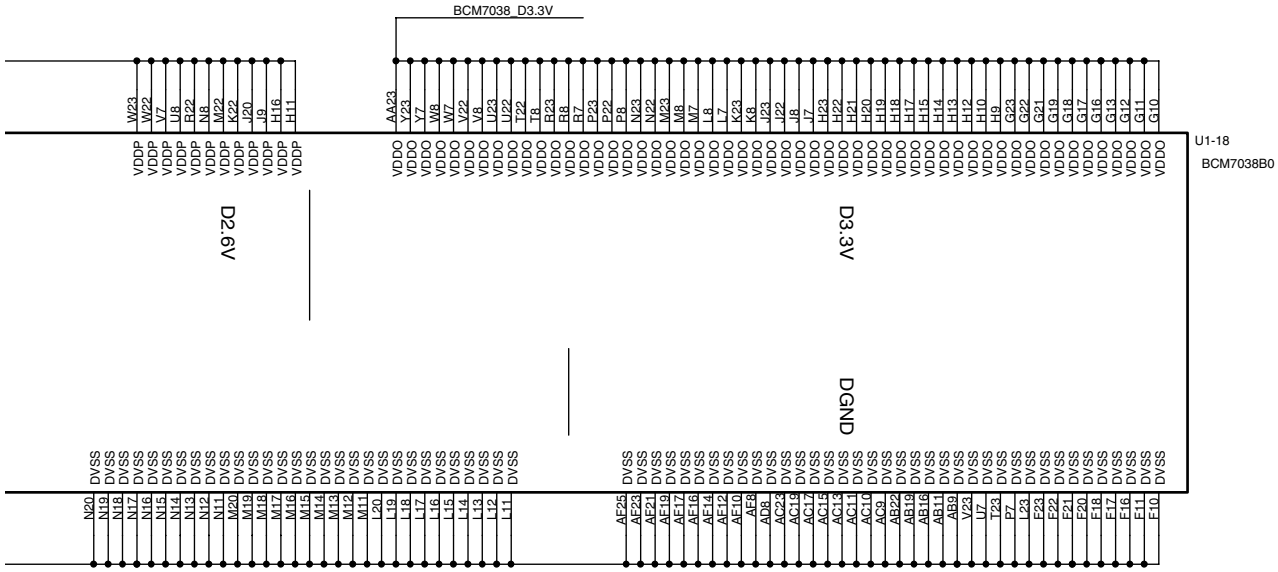




• Video Buffers BLOCK



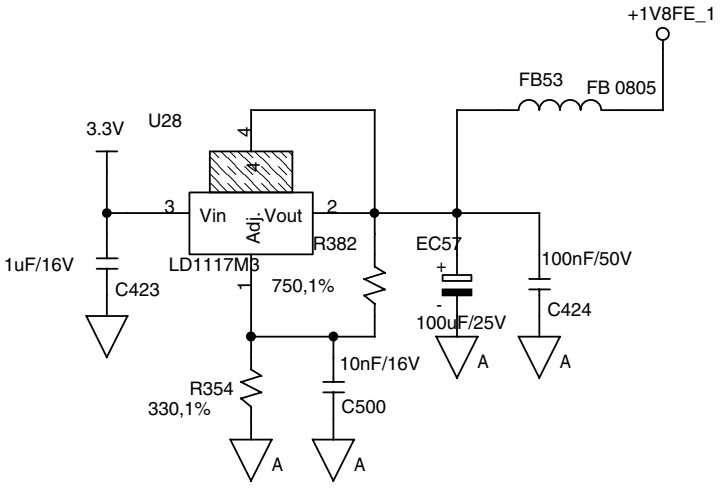

BCM7038_D3.3V
C237
0.01uF
C238
1000pF
C239
1000pF
C240
1000pF
C241
1000pF
BCM7038_D2.6V
C250
0.01uF
C251
1000pF
C252
1000pF
C253
1000pF
C254
1000pF
BCM7038_D1.2V
C262
0.01uF
C263
0.01uF
C264
0.01uF
C265
1000pF
C266
1000pF
C267
1000pF
C268
1000pF

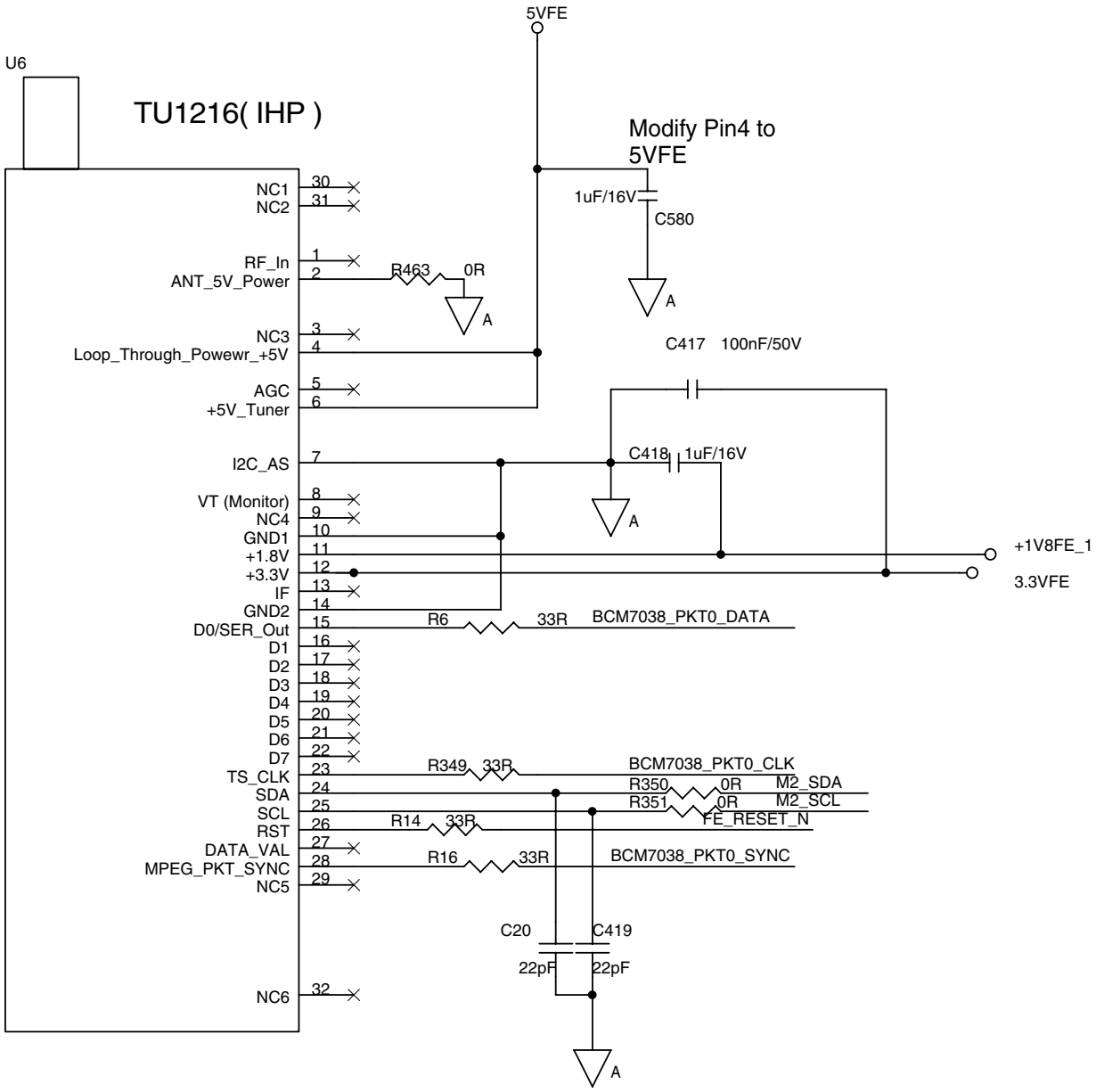

BCM7038_D3.3V
U1-18
BCM7038B0
D2.6V
D3.3V
DGND

10.31 DTV MB ASSY (15/16)

DTV MB ASSY (15/16)

- Front End BLOCK

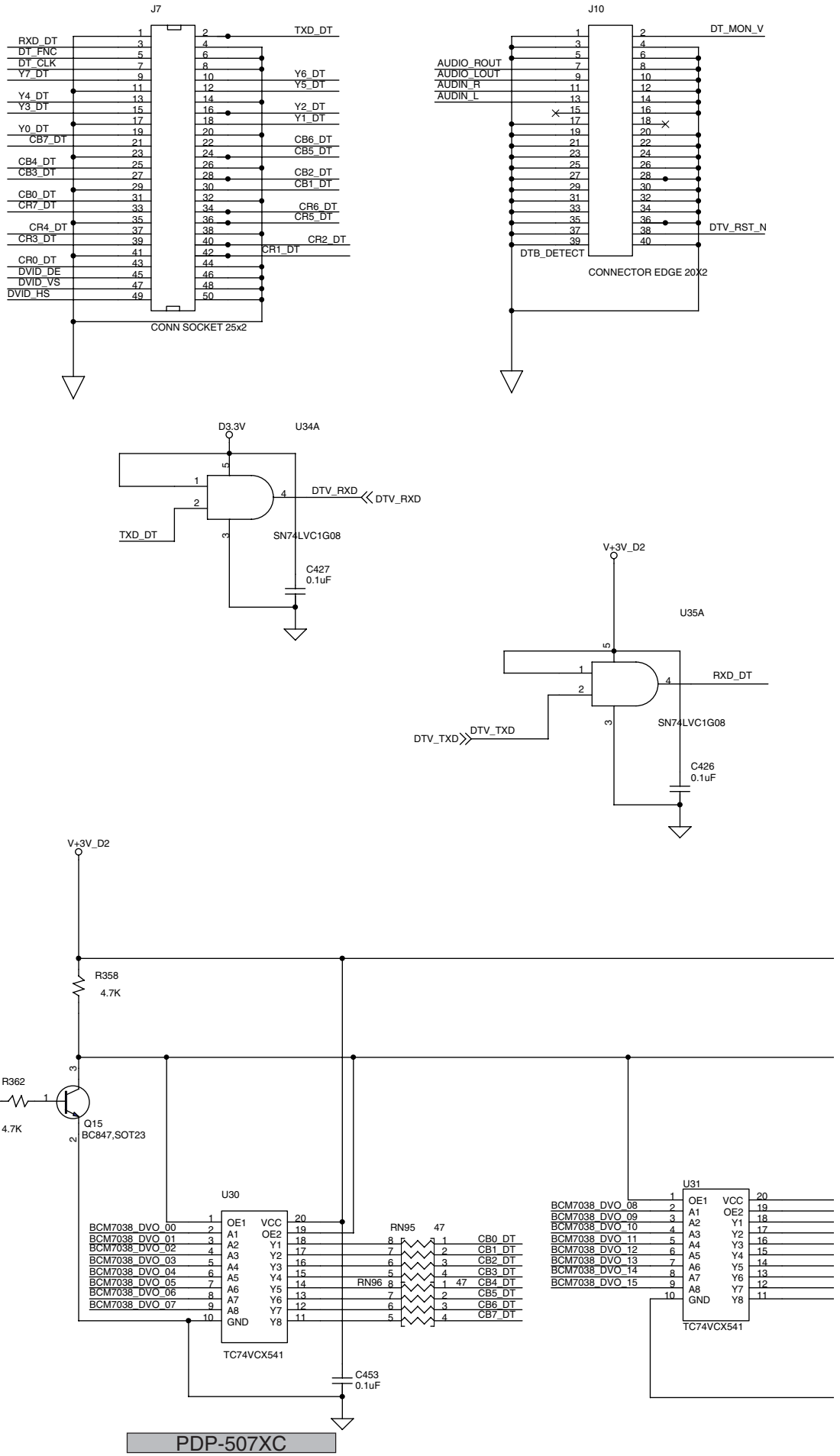


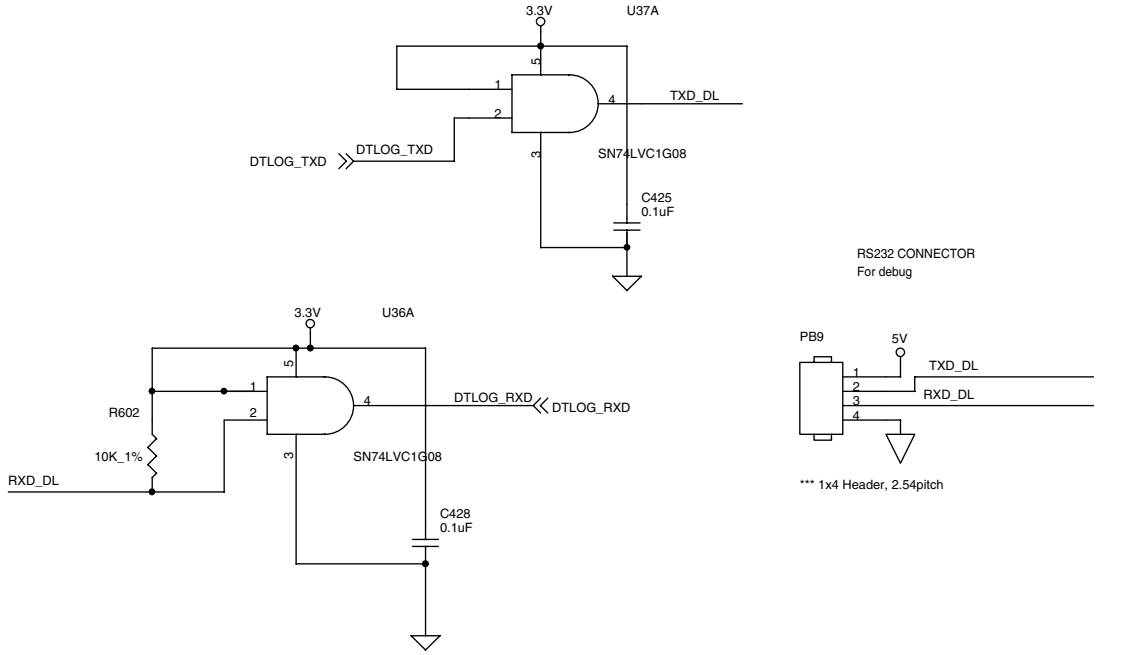

5VFE
U6
TU1216(IHP)
Modify Pin4 to
5VFE
1uF/16V
C580
NC1
NC2
RF_In
ANT_5V_Power
R463
0R
NC3
Loop_Through_Powewr_+5V
C417 100nF/50V
AGC
+5V_Tuner
I2C_AS
C418
1uF/16V
VT (Monitor)
NC4
GND1
+1.8V
+3.3V
IF
GND2
D0/SER_Out
D1
D2
D3
D4
D5
D6
D7
TS_CLK
SDA
SCL
RST
DATA_VAL
MPEG_PKT_SYNC
NC5
NC6
+1V8FE_1
3.3VFE
R6
33R
BCM7038_PKT0_DATA
R349
33R
BCM7038_PKT0_CLK
R350
0R
M2_SDA
R351
0R
M2_SCL
FE_RESET_N
R14
33R
R16
33R
BCM7038_PKT0_SYNC
C20
C419
22pF
22pF
A

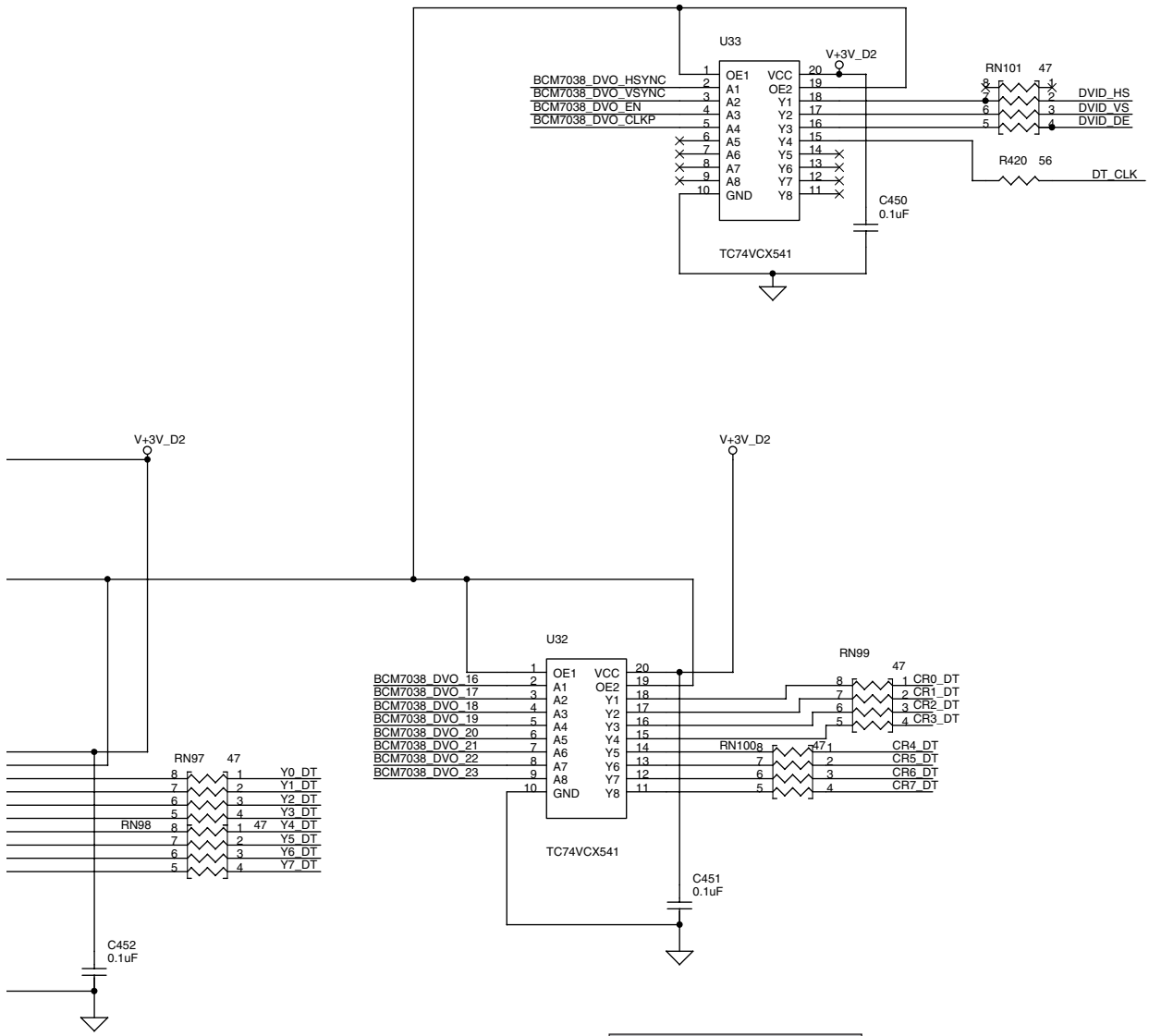
10.32 DTV MB ASSY (16/16)

DTV MB ASSY (16/16)

• Inter-Connection BLOCK




3.3V
U37A
TXD_DL
DTLOG_TXD
DTLOG_TXD
SN74LVC1G08
C425
0.1uF
RS232 CONNECTOR
For debug
3.3V
U36A
R602
10K_1%
RXD_DL
DTLOG_RXD
DTLOG_RXD
SN74LVC1G08
C428
0.1uF
PB9
5V
TXD_DL
RXD_DL
*** 1x4 Header, 2.54pitch

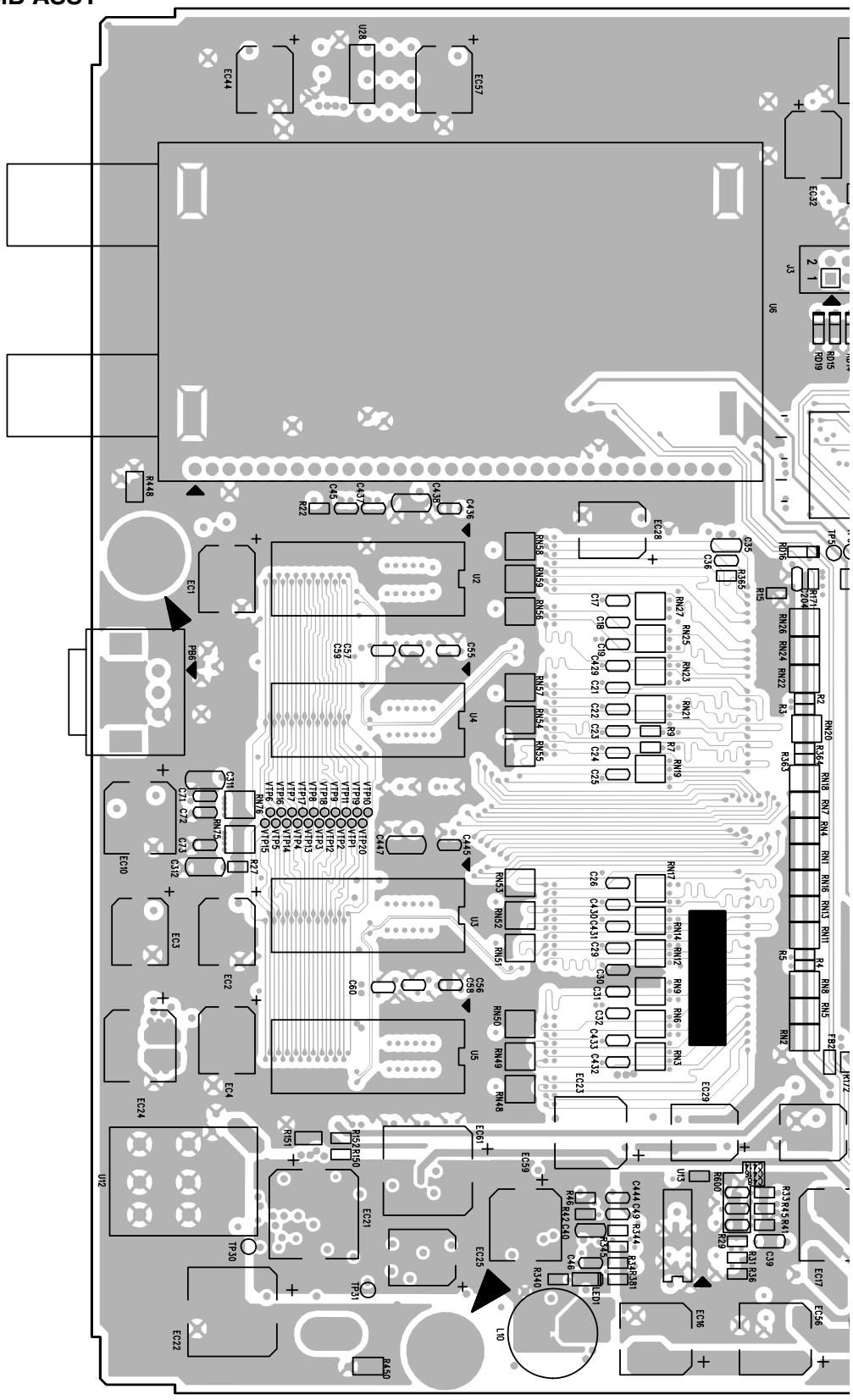

U33
V+3V_D2
BCM7038_DVO_HSYNC
BCM7038_DVO_VSYNC
BCM7038_DVO_EN
BCM7038_DVO_CLKP
OE1
A1
A2
A3
A4
A5
A6
A7
A8
GND
VCC
OE2
Y1
Y2
Y3
Y4
Y5
Y6
Y7
Y8
TC74VCX541
C450
0.1uF
RN101 47
DVID_HS
DVID_VS
DVID_DE
R420 56
DT_CLK
V+3V_D2
V+3V_D2
U32
BCM7038_DVO_16
BCM7038_DVO_17
BCM7038_DVO_18
BCM7038_DVO_19
BCM7038_DVO_20
BCM7038_DVO_21
BCM7038_DVO_22
BCM7038_DVO_23
TC74VCX541
C451
0.1uF
RN99 47
CR0_DT
CR1_DT
CR2_DT
CR3_DT
RN100 47
CR4_DT
CR5_DT
CR6_DT
CR7_DT
RN97 47
Y0_DT
Y1_DT
Y2_DT
Y3_DT
RN98 47
Y4_DT
Y5_DT
Y6_DT
Y7_DT
C452
0.1uF

11. PCB CONNECTION DIAGRAM

11.1 DTV MB ASSY

SIDE A

DTV MB ASSY



A

B

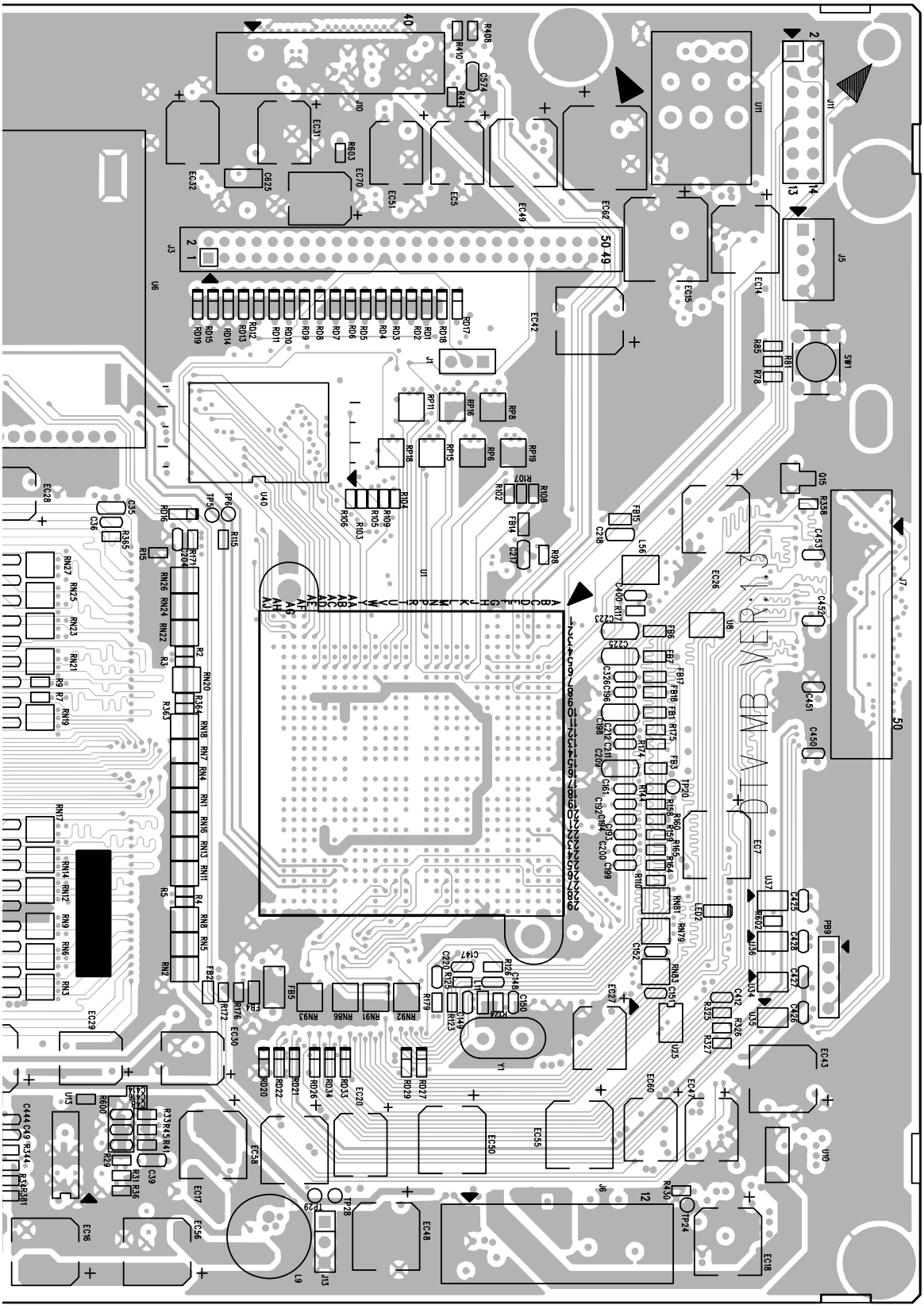
C

D

E

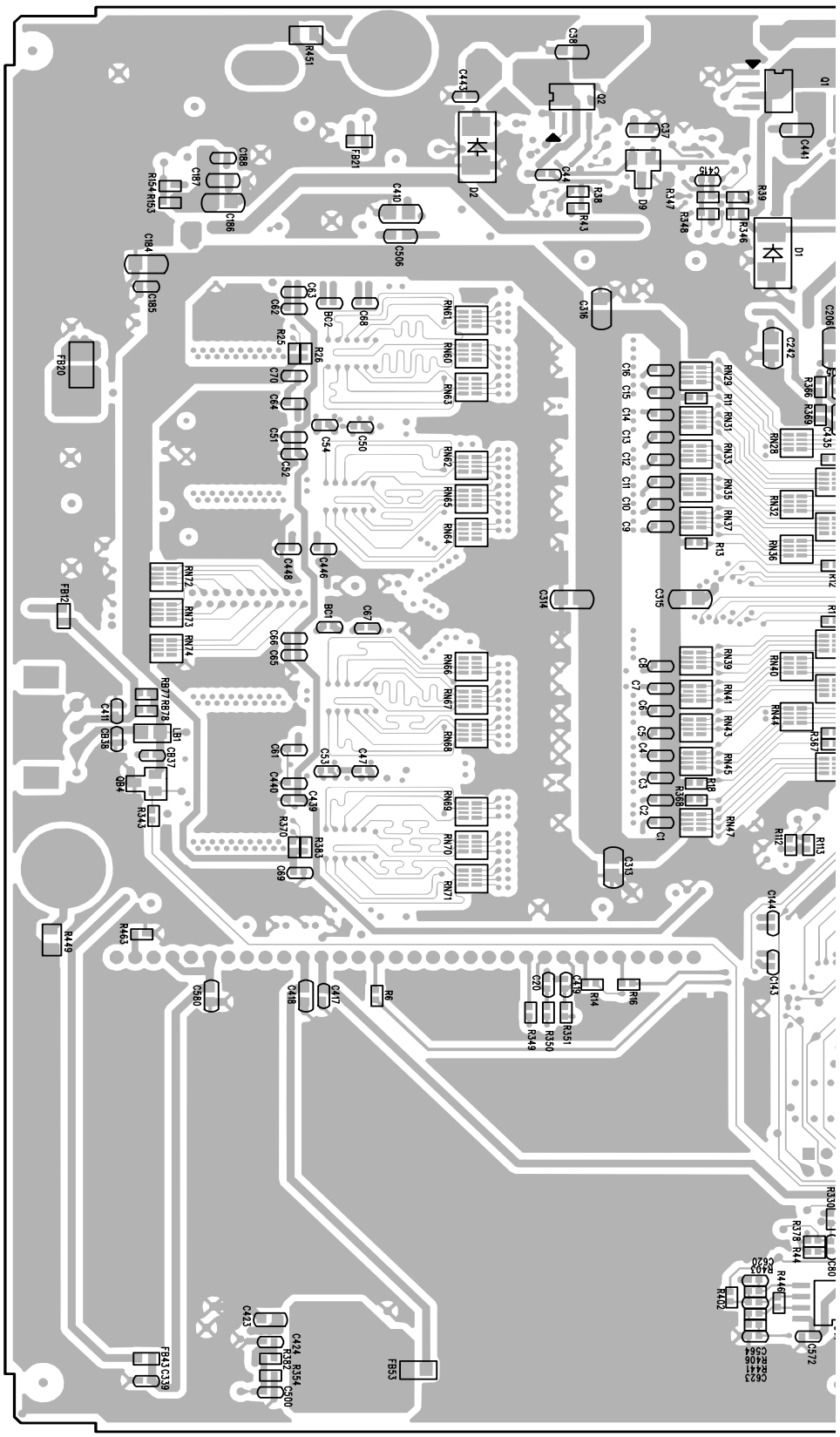
F

SIDE A



SIDE B

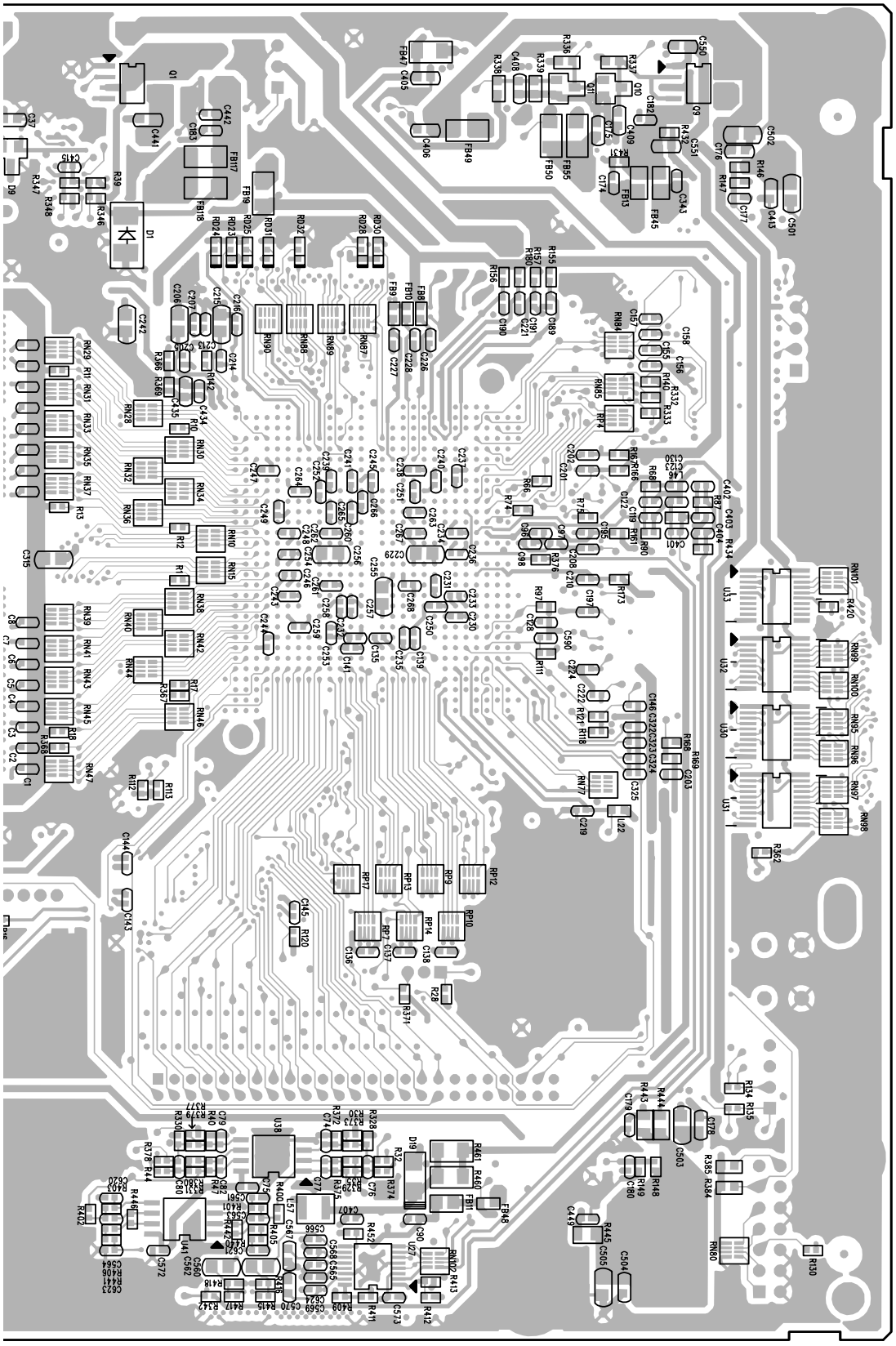
DTV MB ASSY



A

SIDE B

B



C

D

E

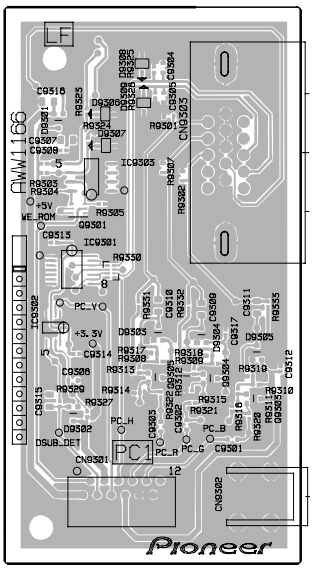
F

11.2 TANSHI, SIDE and PC ASSYS

SIDE A

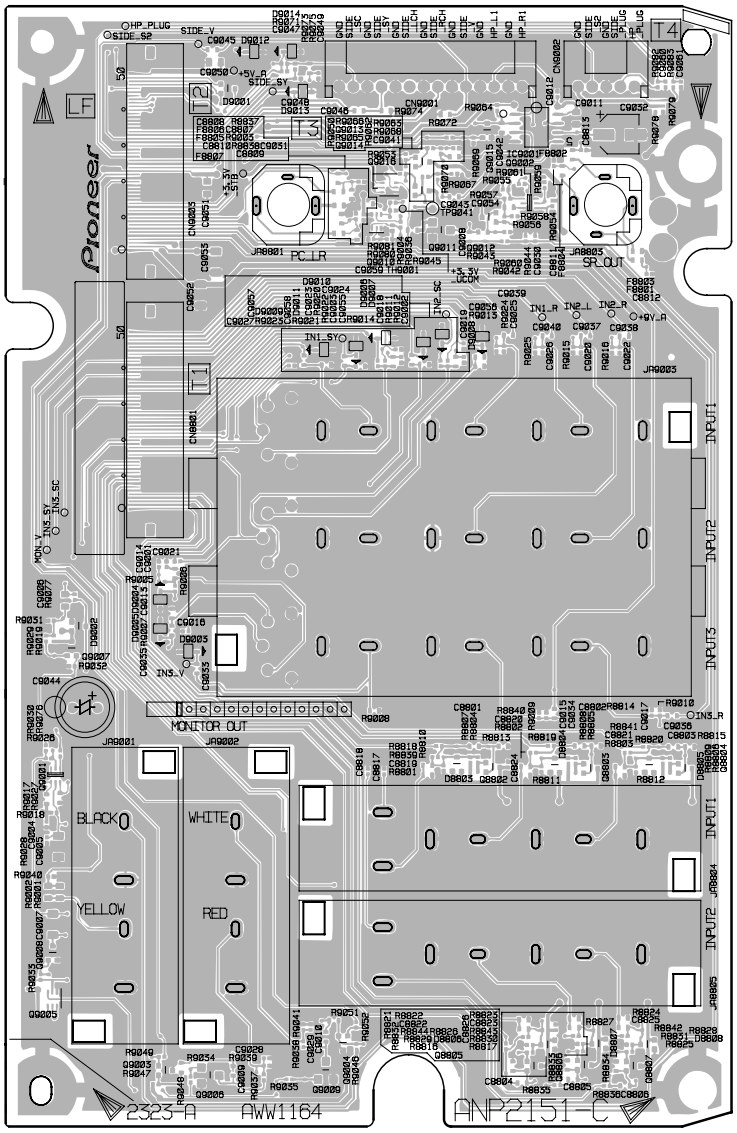
SIDE A

PC ASSY



(ANP2151-C)

TANSHI ASSY



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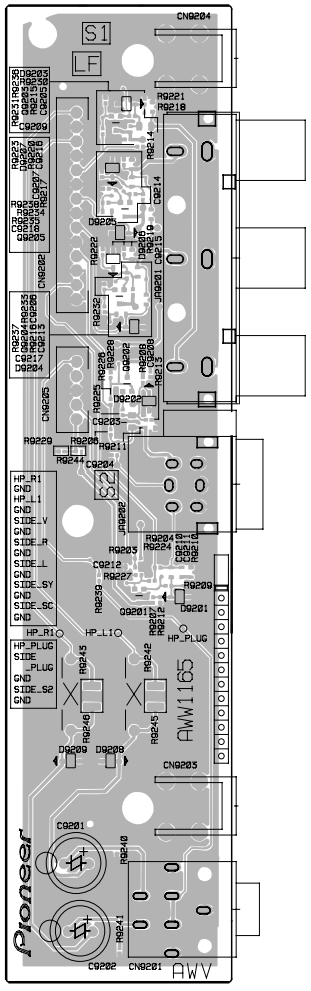
SIDE ASSY



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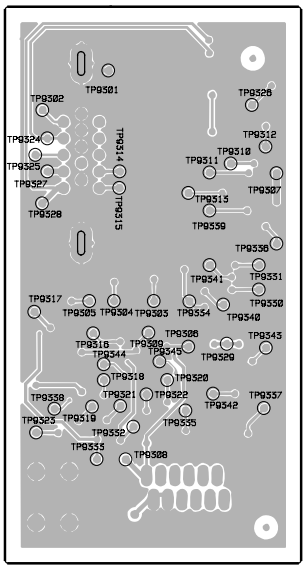
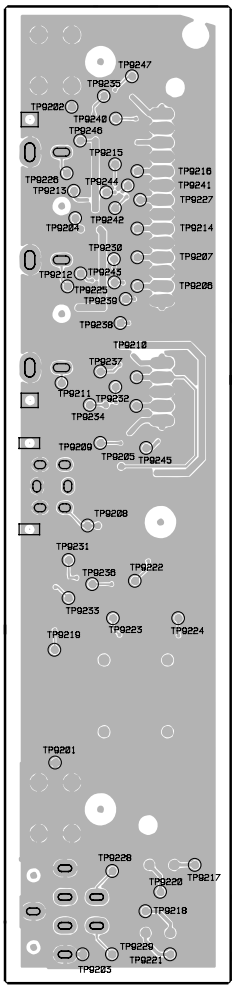
SIDE B

PC ASSY



(ANP2151-C)

SIDE ASSY



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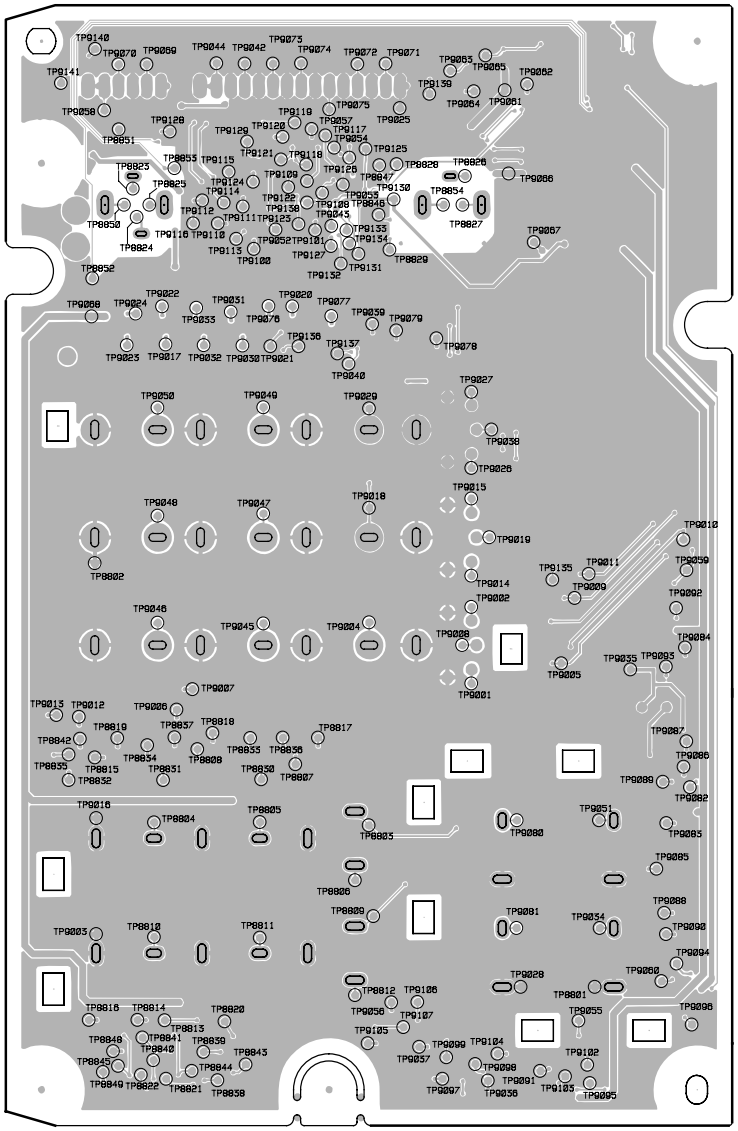
SIDE B

TANSHI ASSY



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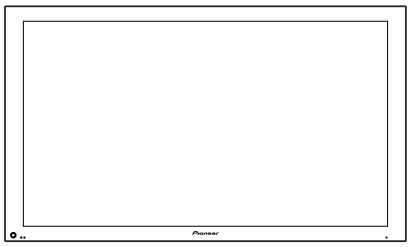
Pioneer sound.vision.soul

Service Manual



PDP-507XD

ORDER NO.
ARP3396

PLASMA TELEVISION

PDP-507XD
PDP-507XA

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Model	Type	Power Requirement	Remarks
PDP-507XD	WYVIXK5	AC 220 V to 240 V	
PDP-507XA	WYVIXK5	AC 220 V to 240 V	
PDP-507XA	WYV5	AC 220 V to 240 V	

For details, refer to "Important Check Points for good servicing".

PIONEER CORPORATION 4-1, Meguro 1-chome, Meguro-ku, Tokyo 153-8654, Japan
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PIONEER EUROPE NV Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium
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ⓒ**PIONEER CORPORATION 2006**

T-IZV OCT. 2006 printed in Japan

1. NOTES ON SERVICE VISIT

1.1 SAFETY INFORMATION

This service manual is intended for qualified service technicians ; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING
This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 - Proposition 65

NOTICE
(FOR CANADIAN MODEL ONLY)
Fuse symbols (fast operating fuse) and/or (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE
(POUR MODÈLE CANADIEN SEULEMENT)
Les symboles de fusible (fusible de type rapide) et/ou (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

SAFETY PRECAUTIONS

NOTICE : Comply with all cautions and safety related notes located on or inside the cabinet and on the chassis.

The following precautions should be observed :

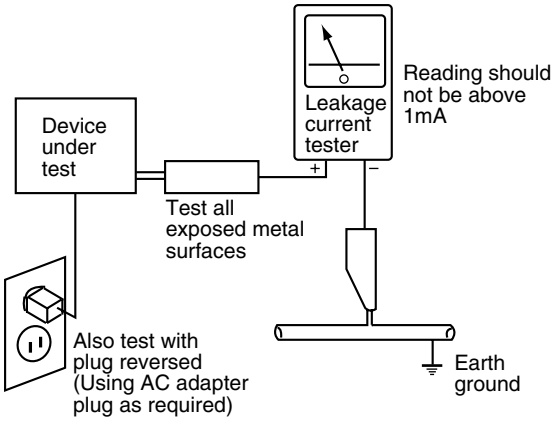
1. When service is required, even though the PDP UNIT an isolation transformer should be inserted between the power line and the set in safety before any service is performed.
2. When replacing a chassis in the set, all the protective devices must be put back in place, such as barriers, nonmetallic knobs, adjustment and compartment covershields, isolation resistor-capacitor, etc.
3. When service is required, observe the original lead dress. Extra precaution should be taken to assure correct lead dress in the high voltage circuitry area.
4. Always use the manufacture's replacement components. Especially critical components as indicated on the circuit diagram should not be replaced by other manufacture's. Furthermore where a short circuit has occurred, replace those components that indicate evidence of overheating.
5. Before returning a serviced set to the customer, the service technician must thoroughly test the unit to be certain that it is completely safe to operate without danger of electrical shock, and be sure that no protective device built into the set by the manufacture has become defective, or inadvertently defeated during servicing. Therefore, the following checks should be performed for the continued protection of the customer and servicetechnician.
6. Perform the following precautions against unwanted radiation and rise in internal temperature.
   - Always return the internal wiring to the original styling.
   - Attach parts (Gascket, Ferrite Core, Ground, Rear Cover, Shield Case etc.) surely after disassembly.
7. Perform the following precautions for the PDP panel.
   - When the front case is removed, make sure nothing hits the panel face, panel corner, and panel edge (so that the glass does not break).
   - Make sure that the panel vent does not break. (Check that the cover is attached.)
   - Handle the FPC connected to the panel carefully. Twisting or pulling the FPC when connecting it to the connector will cause it to peel off from the panel.
8. Pay attention to the following.
   - Pay extreme caution when the front case and rear panel are removed because this may cause a high risk of disturbance to TVs and radios in the surrounding.

Leakage Current Cold Check

With the AC plug removed from an AC power source, place a jumper across the two plug prongs. Turn the AC power switch on. Using an insulation tester (DC 500V), connect one lead to the jumpered AC plug and touch the other lead to each exposed metal part (input/output terminals, screwheads, metal overlays, control shafts, etc.), particularly any exposed metal part having a return path to the chassis. Exposed metal parts having a return path to the chassis should have a minimum resistor reading of 4MΩ. The below 4MΩ resistor value indicate an abnormality which require corrective action. Exposed metal parts not having a return path to the chassis will indicate an open circuit.

Leakage Current Hot Check

Plug the AC line cord directly into an AC power source (do not use an isolation transformer for this check).
Turn the AC power switch on.
Using a "Leakage Current Tester (Simpson Model 229 equivalent)", measure for current from all exposed metal parts of the cabinet (input/output terminals, screwheads, metal overlays, control shaft, etc.), particularly any exposed metal part having a return path to the chassis, to a known earth ground (water pipe, conduit, etc.). Any current measured must not exceed 1mA.


Reading should not be above 1mA
Leakage current tester
+
–
Device under test
Test all exposed metal surfaces
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE SET TO THE CUSTOMER.

PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in PIONEER set have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.
Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.
The use of a substitute replacement component which dose not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire or other hazards.
Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

■ Charged Section

The places where the commercial AC power is used without passing through the power supply transformer.
If the places are touched, there is a risk of electric shock. In addition, the measuring equipment can be damaged if it is connected to the GND of the charged section and the GND of the non-charged section while connecting the set directly to the commercial AC power supply. Therefore, be sure to connect the set via an insulated transformer and supply the current.

1. Power Cord
2. AC Inlet
3. Power Switch (S1)
4. Fuse (In the POWER SUPPLY Unit)
5. STB Transformer and Converter Transformer (In the POWER SUPPLY Unit)
6. Other primary side of the POWER SUPPLY Unit

■ High Voltage Generating Point

The places where voltage is 100 V or more except for the charged places described above. If the places are touched, there is a risk of electric shock.
The VSUS voltage remains for several minutes after the power to the unit is turned off. These places must not be touched until about 10 minutes after the power is turned off, or it is confirmed with a tester that there is no residual VSUS voltage.

If the procedures described in "10.3 POWER ON/OFF FUNC--TION FOR THE LARGE-SIGNAL SYSTEM" are performed before the power is turned off, the voltage will be discharged in about 30 seconds.

POWER SUPPLY UNIT .....(205 V)
50 X MAIN DRIVE Assy.....(–180 V to 205 V)
50 X SUB DRIVE Assy.....(–180 V to 205 V)
50 Y MAIN DRIVE Assy.....(500 V)
50 Y SUB DRIVE Assy.....(350 V)
50 SCAN A Assy.....(500 V)
50 SCAN B Assy.....(500 V)

: Part is Charged Section.

: Part is the High Voltage Generating Points other than the Charged Section.

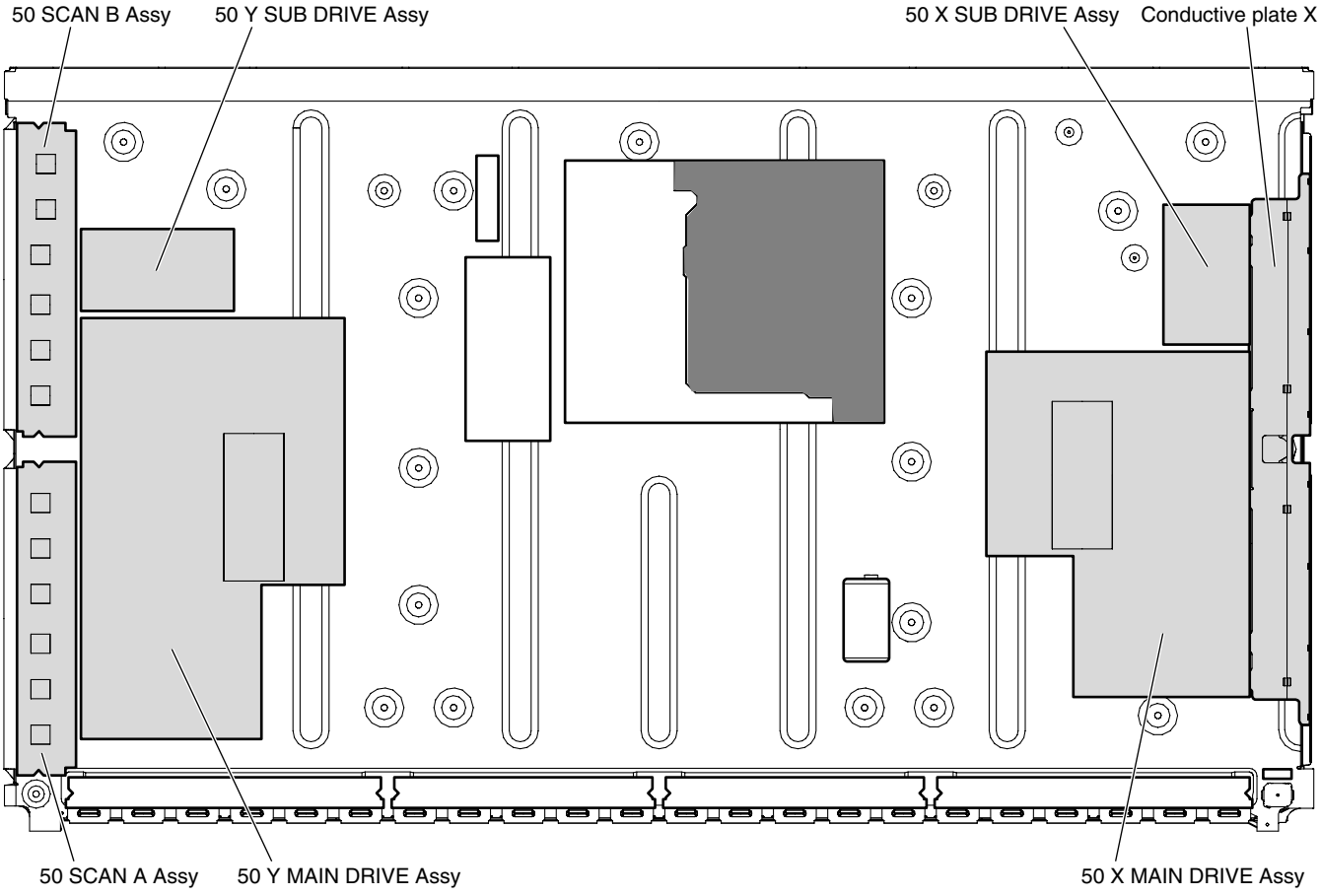

50 SCAN B Assy
50 Y SUB DRIVE Assy
50 X SUB DRIVE Assy
Conductive plate X
50 SCAN A Assy
50 Y MAIN DRIVE Assy
50 X MAIN DRIVE Assy

Fig.1 High Voltage Generating Point (Rear view)

[Important Check Points for Good Servicing]

In this manual, procedures that must be performed during repairs are marked with the below symbol.
Please be sure to confirm and follow these procedures.

1. Product safety

Please conform to product regulations (such as safety and radiation regulations), and maintain a safe servicing environment by following the safety instructions described in this manual.

① Use specified parts for repair.

Use genuine parts. Be sure to use important parts for safety.

② Do not perform modifications without proper instructions.

Please follow the specified safety methods when modification(addition/change of parts) is required due to interferences such as radio/TV interference and foreign noise.

③ Make sure the soldering of repaired locations is properly performed.

When you solder while repairing, please be sure that there are no cold solder and other debris.
Soldering should be finished with the proper quantity. (Refer to the example)

④ Make sure the screws are tightly fastened.

Please be sure that all screws are fastened, and that there are no loose screws.

⑤ Make sure each connectors are correctly inserted.

Please be sure that all connectors are inserted, and that there are no imperfect insertion.

⑥ Make sure the wiring cables are set to their original state.

Please replace the wiring and cables to the original state after repairs.
In addition, be sure that there are no pinched wires, etc.

⑦ Make sure screws and soldering scraps do not remain inside the product.

Please check that neither solder debris nor screws remain inside the product.

⑧ There should be no semi-broken wires, scratches, melting, etc. on the coating of the power cord.

Damaged power cords may lead to fire accidents, so please be sure that there are no damages.
If you find a damaged power cord, please exchange it with a suitable one.

⑨ There should be no spark traces or similar marks on the power plug.

When spark traces or similar marks are found on the power supply plug, please check the connection and advise on secure connections and suitable usage. Please exchange the power cord if necessary.

⑩ Safe environment should be secured during servicing.

When you perform repairs, please pay attention to static electricity, furniture, household articles, etc. in order to prevent injuries.
Please pay attention to your surroundings and repair safely.

2. Adjustments

To keep the original performance of the products, optimum adjustments and confirmation of characteristics within specification.
Adjustments should be performed in accordance with the procedures/instructions described in this manual.

3. Lubricants, Glues, and Replacement parts

Use grease and adhesives that are equal to the specified substance.
Make sure the proper amount is applied.

4. Cleaning

For parts that require cleaning, such as optical pickups, tape deck heads, lenses and mirrors used in projection monitors, proper cleaning should be performed to restore their performances.

5. Shipping mode and Shipping screws

To protect products from damages or failures during transit, the shipping mode should be set or the shipping screws should be installed before shipment. Please be sure to follow this method especially if it is specified in this manual.

Quick Reference upon Service Visit ①
Notes, PD/SD diagnosis, and methods for various settings

Notes when visiting for service

1. Notes when disassembling/reassembling

① **Rear case**
When reassembling the rear case, the screws must be tightened in a specific order. Be careful not to tighten them in the wrong order forcibly. For details, see "Rear Case" in "6. DISASSEMBLY"

② **Attaching screws for the HDMI connector**
When attaching the HDMI connector after replacing the Main Assy, secure the HDMI connector manually with a screwdriver, but not with an electric screwdriver. If you tighten the screws too tightly with an electric screwdriver, the screw heads may be damaged, in which case the screws cannot be untightened/tightened any more.

2. On parts replacement

① **How to discharge before replacing the Assys**
A charge of significant voltage remains in the Plasma Panel even after the power is turned off. Safely discharge the panel before replacement of parts, in either manner indicated below:
A: Let the panel sit at least for 3 minutes after the power is turned off.
B: Turn the Large Signal System off before the power is turned off then, after 1 minute, turn the power off.
For details, see "10.3 Power ON/OFF Function for the Large-Signal System."

② **On the settings after replacement of the Assys**
Some boards need settings made after replacement of the Assys. For details, see "7. ADJUSTMENT"

3. On various settings

① **SR+**
After a repair using a PC, be sure to restore the setting for the RS-232C connector to SR+.

② **Setting in Factory mode**
After a Mask indication into the panel is performed, be sure to set the Mask setting to "OFF" then exit Factory mode.

PD/SD

	Item	No. of LEDs flashing: Red	Blue
Panel section	Communication with the panel drive IC		Blue 1
	Communication with the module IIC		Blue 2
	DIGTAL-RST2		Blue 3
	Panel high temperature		Blue 4
Main section	Audio		Blue 5
	Communication with the Module microcomputer		Blue 6
	Main 3-wire serial communication		Blue 7
	Main IIC communication		Blue 8
	Communication with the Main microcomputer		Blue 9
	FAN		Blue 10
	Unit high temperature		Blue 11
	Communication with the D-TUNER		Blue 12
	MTB-RST2/RST4		Blue 13
POWER		Red 2	
SCAN		Red 3	
SCN-5V		Red 4	
Y-DRIVE		Red 5	
Y-DCDC		Red 6	
Y-SUS		Red 7	
ADRS		Red 8	
X-DRIVE		Red 9	
X-DCDC		Red 10	
X-SUS		Red 11	
UNKNOWN		Red 15	

Change of settings

How to enter Factory mode using the supplied remote control unit

In the same way as with the remote control unit supplied with the 6th-generation model

How to enter Integrator mode using the supplied remote control unit

① Enter the Standby mode.
② Press [MENU].
③ Press [TV ⏻].

How to switch UART ① (Integrator)

① Enter the Integrator mode.
② Display "OFF" using [➡].
③ Change the communication speed using [⬇], then [➡].

How to switch UART ② (During Standby)

① Enter the Standby mode.
② Hold [VOL +] or [VOL -] pressed for 3 seconds.
③ Hold [SPLIT] pressed for 3 seconds.
④-1 To set to 232C, press [ENTER].
⑤-2 To set to SR+, press [HOME MENU].

Note: If switching is completed successfully, the red LED will flash twice.
Note 1: Use a remote control unit supplied with the 6th-generation models or later.
Note 2: Do not hold a key pressed for more than 5 seconds.

How to locate several items on the Factory menu

{ } : Item on the Factory menu
[ ] : Key on the remote control unit
" " : Screen indication

1. Confirmation of accumulated power-on time and power-on count
Select {INFORMATION} then {HOUR METER}.
(After entering Factory mode, press [⬇] four times.)

2. Confirmation of the Power-down and Shutdown histories

① **Panel system**
PD: Select {PANEL FACTORY} then {POWER DOWN}.
(After entering Factory mode, press [MUTING] once, press [ENTER], then press [⬇] three times.)
SD: Select {PANEL FACTORY} then {SHUT DOWN}.
(After entering Factory mode, press [MUTING] once, press [ENTER], then press [⬇] four times.)

② **Main Assy**
Select {INFORMATION} then {MAIN NG}.
(After entering Factory mode, press [⬇] three times.)

3. How to display the Mask indication

① **Mask indication in the panel side**
1. Select {PANEL FACTORY} then {RASTER MASK SETUP}.
(After entering Factory mode, press [MUTING] once, press [ENTER], then press [⬇] 8 times.)
2. Press [ENTER], then select a Mask indication, using [⬆] or [⬇].

② **Mask (SG screen) indication in the Main Assy (MAIN VDEC)**
1. Select either Input 1 or 2, to which no signal is input (black screen).
2. Select {INITIALIZE} then {SG MODE}. Press [⬅]. (After entering Factory mode, press [MUTING] three times, then press [⬇] once.) Then, the indication at the lower right of the screen changes from "OFF" to "ANA AD YCBCR".
3. You can change Mask patterns by pressing [⬇] to select {SG PATTERN} then using [⬅] or [➡].

Note: When you switch "SG MODE" routes, some displays become monochrome, as they are in Y-signal only mode.

Adjustments and Settings after replacement of the Assys (Procedures in Factory mode)

1. Digital Video Assy: Transfer of backup data
① Select {PANEL FACTORY}, {ETC}, then {BACKUP DATA}. (After entering Factory mode, press [MUTING] once, press [ENTER], press [⬇] seven times, then press [ENTER].)
② Select {TRANSFER}, using [➡], then hold [SET] pressed for at least 5 seconds.
③ After transfer of backup data is completed, {ETC} is automatically selected, and the LED on the front panel returns to normal lighting.

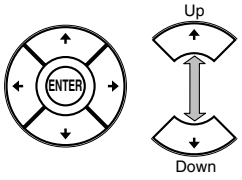
2. MAIN Assy : Switching to SR+ from RS-232C
① Enter the Integrator mode. (The way is described above.)
② As SR+ <=> is [OFF] state, switch to [ON] state by using [➡].
③ Turn the POWER switch of the main unit off by the remote control.

3. POWER SUPPLY Unit: Clearance of the accumulated power-on count and maximum temperature value
① Select {PANEL FACTORY}, {ETC}, then {P COUNT INFO}. (After entering Factory mode, press [MUTING] once, press [ENTER], press [⬇] seven times, press [ENTER], then press [⬇] six times.)
② Press [➡] to select "CLEAR". Hold [SET] pressed for at least 5 seconds.
After clearance is completed, "ETC" is automatically selected. Clear the maximum temperature value (MAX TEMP) in the same manner.

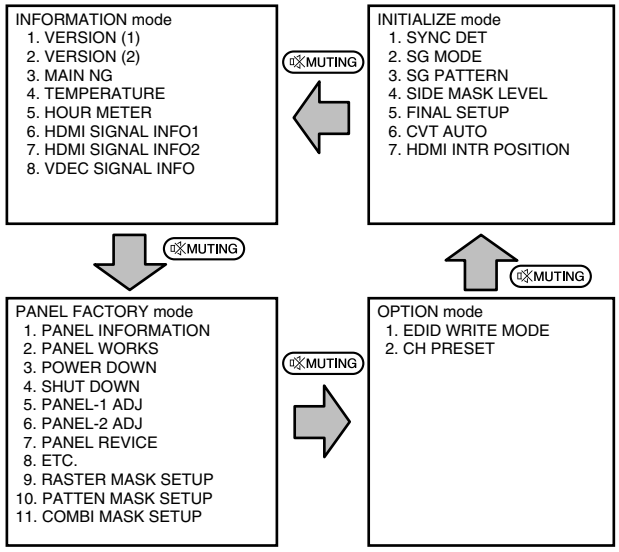
4. Other Assys: Clearance of the maximum temperature value
① Select {PANEL FACTORY}, {ETC}, then {MAX TEMP}. (After entering Factory mode, press [MUTING] once, press [ENTER], press [⬇] seven times, press [ENTER], then press [⬇] seven times.)
② Press [➡] to select "CLEAR". Hold [SET] pressed for at least 5 seconds.
After clearance is completed, "ETC" is automatically selected.

Quick Reference upon Service Visit ②
Mode transition and structure of layers in Service Factory mode

Mode transition in Service Factory mode



- To shift to another mode, press [MUTING].
- To shift to another item in a specific mode, press [⬆] or [⬇].
- To shift to the next nested layer below for an item with a "(+)" indication, press [ENTER]. To return to the next nested layer above, also press [ENTER].



Structure of Layers in Service Factory Mode

INFORMATION mode	
├1. VERSION (1)	Flash Versions for PANEL system and MAIN system
├2. VERSION (2)	Flash Versions for DTV system
├3. MAIN NG	SD histories for MAIN (Going Clear model by SET key)
└3-1. CLEAR	Select Yes by [➡] key ➡ pushing and hold [SET] key
├4. TEMPERATURE	TEMP 1, TEMP2 and FAN mode are displayed
├5. HOUR METER	Hour meter and number of Power ON are displayed
└5-1. CLEAR	Select Yes by [➡] key ➡ pushing and hold [SET] key
├6. HDMI SIGNAL INFO 1	For factory use
├7. HDMI SIGNAL INFO 2	Signal info of HDMI are displayed (Detail are on SM)
└8. VDEC SIGNAL INFO	For factory use
PANEL FACTORY mode	Refer to [PANEL FACTORY MODE]
OPTION	
├1. EDID WRITE MODE	For factory use
└2. CH PRESET	For production line use
INITIALIZE	
├1. SYNC DET (+)	For factory use
2. SG MODE	SG signal from MAIN VDEC (Composite signal is required)
3. SG PATTERN	For factory use
├4. SIDE MASK LEVEL(+)	For factory use
├ ├4-1. R MASK LEVEL	
├ ├4-2. G MASK LEVEL	
└4-3. B MASK LEVEL	
├5. FINAL SETUP	Set to Factory default settings (it should perform after
├ └5-1. DATA RESET	replacing a MAIN board)
├6. CVT AUTO	For factory use
└7. HDMI INTR POSITION(+)	For factory use

Structure of Layers in Panel Factory Mode 1

1. PANEL INFORMATION	Version indication of the panel
2. PANEL WORKS	Indications of the accumulated power-on time, pulse-meter count, and power-on count of the panel
3. POWER DOWN	Indication of the Power-down history
4. SHUT DOWN	Indication of the Shutdown history
5. PANEL-1 ADJ (+)	
├ 1. X-SUS B	Modification not required because these items are basically for factory presetting
├ 2. Y-SUS B	
├ 3. Y-SUSTAIL T1	
├ 4. Y-SUSTAIL T2	
├ 5. Y-SUSTAIL W	
├ 6. XY-RST W1	
├ 7. XY-RST W2	
├ 8. VOL SUS	Settings required after replacement of the panel
├ 9. VOL OFFSET	
├ 10. VOL RST P	
└ 11. SUS FREQ.	For AM noise prevention (Depending on the mode, brightness of the screen changes.)
6. PANEL-2 ADJ (+)	
├ 1. R-HIGH	Parameters for the WB adjustment of the panel, which are required during adjustment after panel replacement
├ 2. G-HIGH	
├ 3 .B-HIGH	
├ 4. R-LOW	
├ 5. G-LOW	
├ 6. B-LOW	
└ 7. ABL	Setting of the power consumption. A setting table is available for each vertical signal.

To "Structure of Layers in Panel Factory Mode 2"

Structure of Layers in Panel Factory Mode 2

7. PANEL REVISE (+)	
├ R-LEVEL	Items for use by engineers
├ G-LEVEL	
└ B-LEVEL	
8. ETC (+)	
├ 1. BACKUP DATA	For transferring backup data (after replacement of the DIGITAL Assy)
├ 2. DIGITAL EEPROM	To clear data of the digital video
├ 3. PD INFO.	For clearance of data for the corresponding items. The clearing method is the same: Select "CLEAR", using [➡], then hold [SET] pressed for at least 5 seconds. After clearance is completed, {ETC} is automatically selected.
├ 4. SD INFO.	
├ 5. HR-MTR INFO.	
├ 6. PM/B1-B5	
├ 7. P COUNT INFO.	
└ 8. MAX TEMP.	
9. RASTER MASK SETUP (+)	
├ 1. MASK OFF	For use while Raster Mask (full mask) is displayed. Use [⬆] or [⬇] to select the type of mask.
├ 2. RST MASK 01	
≈ • • • • •	
└ 25. RST MASK 24	
10. PATTEN MASK SETUP (+)	
├ 1. MASK OFF	For use while Pattern Mask is displayed. Use [⬆] or [⬇] to select the type of mask.
├ 2. PTN MASK 01	
≈ • • • • •	
└ 40. PTN MASK 39	
11. COMBI MASK SETUP (+)	
├ 1. MASK OFF	For use while Combination Mask is displayed. Use [⬆] or [⬇] to select the type of mask.
├ 2. CMB MASK 01	
≈ • • • • •	
└ 11. CMB MASK 10	

1.3 JIGS LIST

■ Cleaning

Name	Part No.	Remarks
Cleaning liquid	GEM1004	Used to fan cleaning. Refer to "2.4 CHASSIS SECTION (1/2).
Cleaning paper	GED-008	

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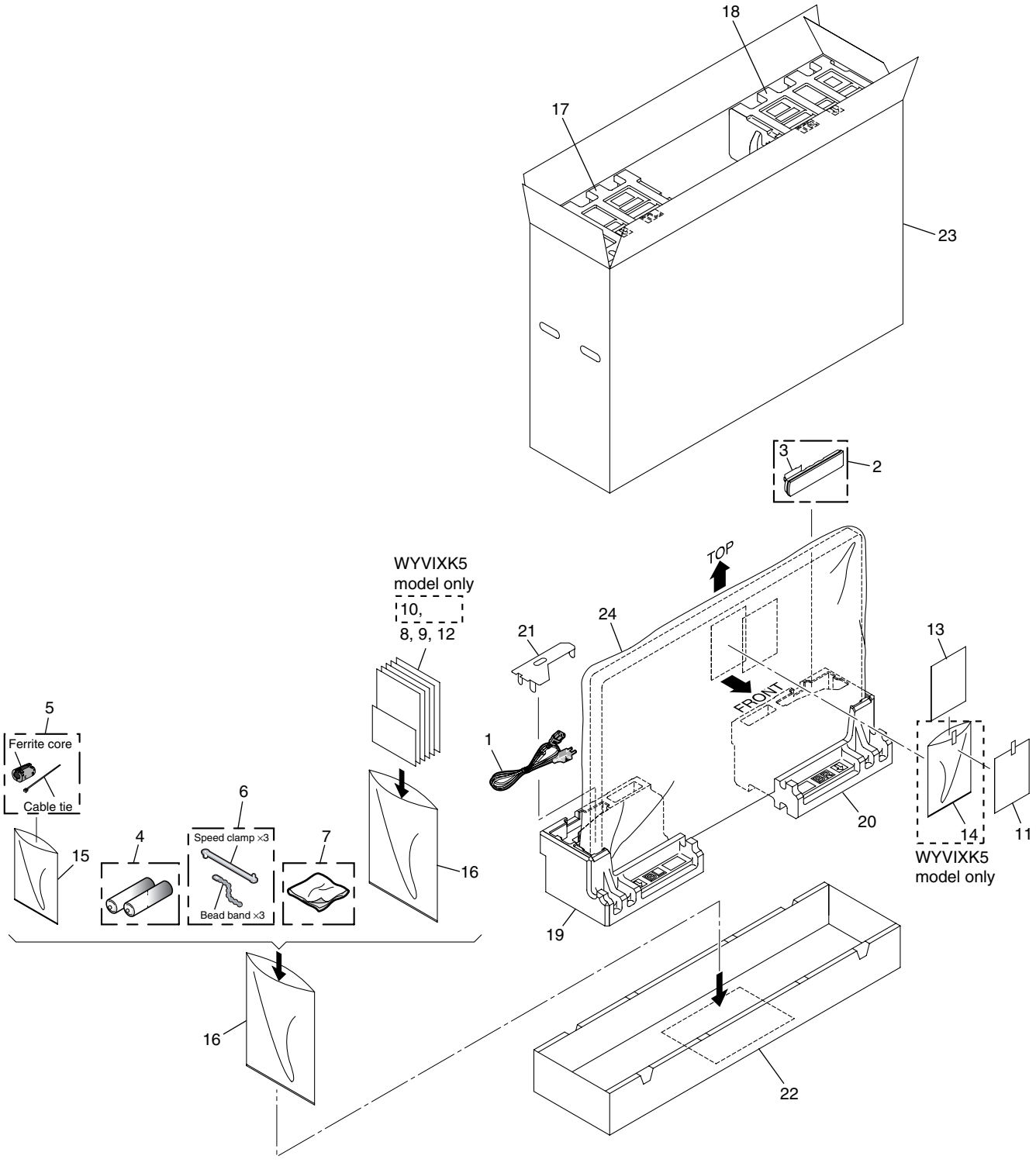
2. EXPLODED VIEWS AND PARTS LIST

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Screws adjacent to ▼ mark on product are used for disassembly.*
- *For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions, apply as you think it appropriate.)*

2.1 PACKING SECTION



(1) PACKING PARTS LIST

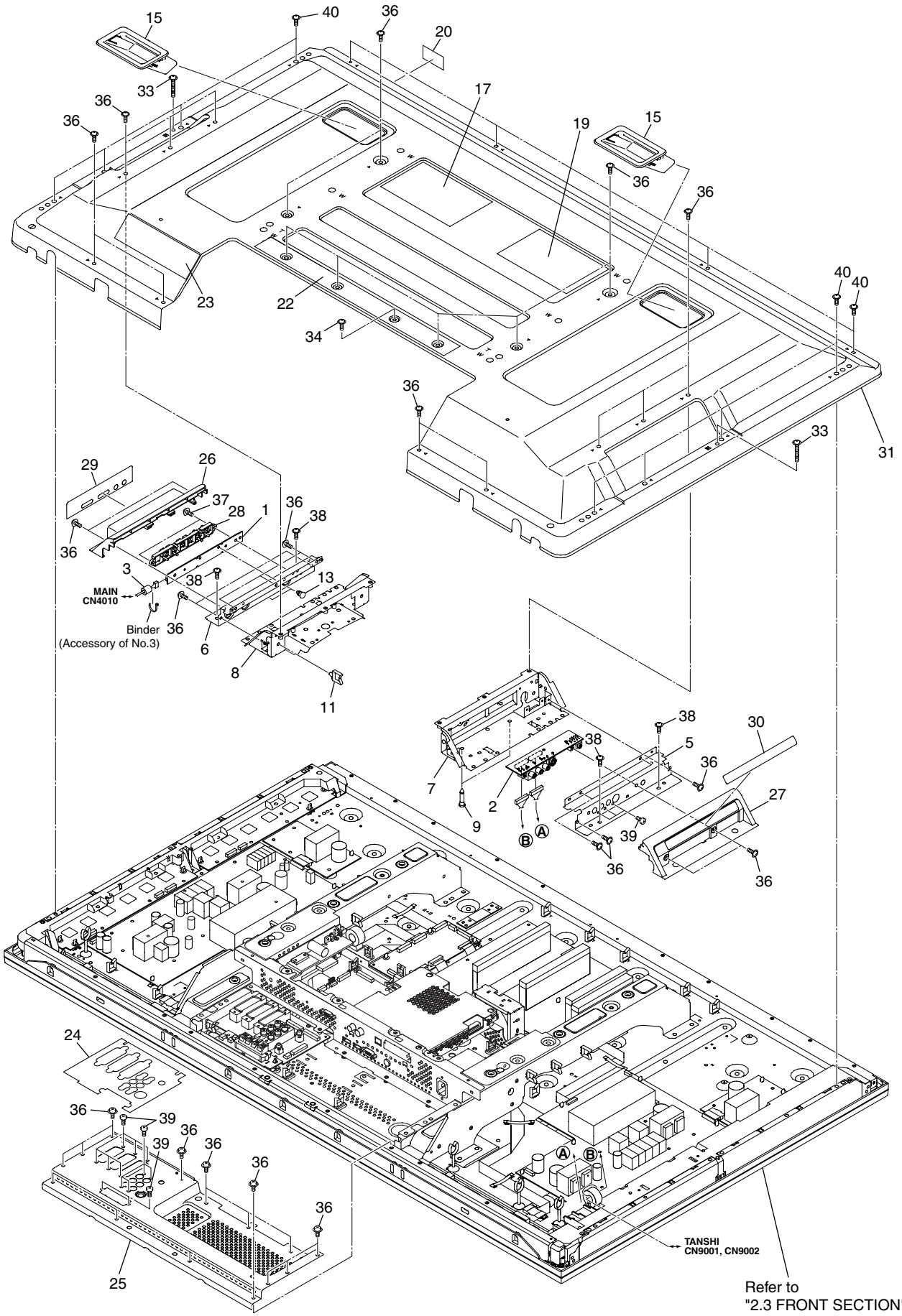
Mark	No.	Description	Part No.
⚠	1	Power Cord (2 m)	ADG1214
	2	Remote Control Unit	See Contrast table (2)
	3	Battery Cover	AZN2626
NSP	4	Dry Cell Battery (R06, AA)	VEM1031
⚠	5	Ferrite Core	ATX1039
	6	Binder Assy	AEC1908
	7	Cleaning Cloth	AED1285
	8	Operating Instructions (Italian, Spanish, Dutch)	See Contrast table (2)
	9	Operating Instructions (English, French, German)	See Contrast table (2)
	10	Block Diagram	See Contrast table (2)
	11	Caution Card	See Contrast table (2)
	12	Cleaning Caution	See Contrast table (2)
NSP	13	Warranty Card	ARY1114
	14	Polyethlene Bag	See Contrast table (2)
	15	Vinyl Bag	AHG1337
	16	Vinyl Bag	AHG1340
	17	Pad (507 T-L)	See Contrast table (2)
	18	Pad (507 T-R)	See Contrast table (2)
	19	Pad (507 B-L)	See Contrast table (2)
	20	Pad (507 B-R)	See Contrast table (2)
	21	Power Cord Lid	See Contrast table (2)
	22	Under Carton (507)	See Contrast table (2)
	23	Upper Carton	See Contrast table (2)
	24	Mirror Mat	See Contrast table (2)

(2) CONTRAST TABLE

PDP-507XD/WYVIXK5, PDP-507XA/WYVIXK5 and WYV5 are constructed the same except for the following:

Mark	No.	Symbol and Description	PDP-507XD /WYVIXK5	PDP-507XA /WYVIXK5	PDP-507XA /WYV5
	2	Remote Control Unit	AXD1532	AXD1540	AXD1540
	8	Operating Instructions (Italian, Spanish, Dutch)	ARC1562	ARC1564	ARC1563
	9	Operating Instructions (English, French, German)	ARE1428	ARE1430	ARE1429
	10	Block Diagram	ARY1189	ARY1189	Not used
	11	Caution Card	ARM1310	ARM1310	ARM1232
	12	Cleaning Caution	ARM1311	ARM1311	ARM1283
	14	Polyethylene Bag	AHG1326	AHG1326	Not used
	17	Pad (507 T-L)	AHA2558	AHA2558	AHA2538
	18	Pad (507 T-R)	AHA2559	AHA2559	AHA2539
	19	Pad (507 B-L)	AHA2560	AHA2560	AHA2540
	20	Pad (507 B-R)	AHA2561	AHA2561	AHA2541
	21	Power Cord Lid	AHC1087	AHC1087	AHC1085
	22	Under Carton (507)	AHD3498	AHD3498	AHD3473
	23	Upper Carton (507XD)	AHD3521	Not used	Not used
	23	Upper Carton (507XA)	Not used	AHD3499	AHD3522
	24	Mirror Mat	AHG1327	AHG1327	AHG1284

2.2 REAR SECTION



(1) REAR SECTION PARTS LIST

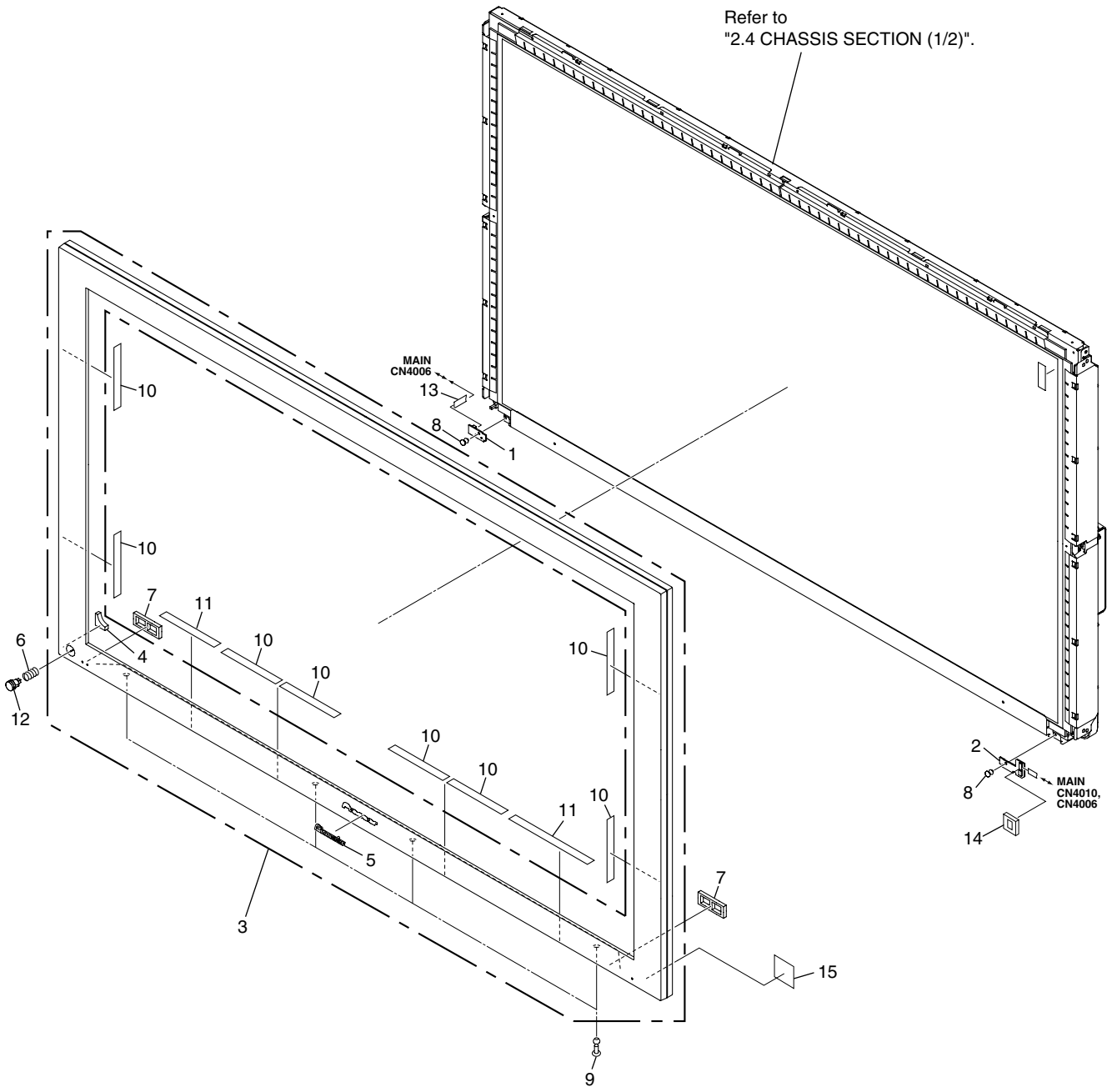
Mark	No.	Description	Part No.
	1	SIDE KEY Assy	AWW1133
	2	SIDE Assy	AWW1162
	3	Filter	CTX1054
	4	•••••	
	5	Side Input Panel (E)	ANC2418
	6	Function Button Base	ANG2923
	7	Side Input Shield	ANK1834
	8	Function Button Shield	ANK1835
NSP	9	PCB Support	AEC1288
	10	•••••	
	11	Wire Saddle	AEC1745
	12	•••••	
	13	Locking Card Spacer	AEC2019
	14	•••••	
	15	Inner Grip Assy	AMR3434
	16	•••••	
NSP	17	Name Label	See Contrast table (2)
	18	•••••	
	19	Bolt Caution Label	See Contrast table (2)
	20	Serial Seal	AAX3143
	21	•••••	
	22	Terminal Label A (E/T)	See Contrast table (2)
	23	Terminal Label C (E/T)	AAX3339
	24	Terminal Label B50 (E/HT)	AAX3418
	25	Terminal Panel B (50E)	ANC2410
	26	Function Button Panel	AMB2906
	27	Side Input Cover	AMB2911
	28	Function Button (E)	AAC1565
	29	Function Button Sheet (E)	AAK2896
	30	Input Cover Label E	See Contrast table (2)
	31	Rear Case (507)	ANE1656
	32	•••••	
	33	Screw (3 x 40P)	ABA1332
	34	Screw	ABA1341
	35	•••••	
	36	Screw	AMZ30P060FTB
	37	Screw	AMZ30P080FTC
	38	Screw	APZ30P080FTB
	39	Screw	BPZ30P080FTB
	40	Screw	TBZ40P080FTB

(2) CONTRAST TABLE

PDP-507XD/WYVIXK5, PDP-507XA/WYVIXK5 and WYV5 are constructed the same except for the following:

Mark	No.	Symbol and Description	PDP-507XD /WYVIXK5	PDP-507XA /WYVIXK5	PDP-507XA /WYV5
NSP	17	Name Label (507XD)	AAL2813	Not used	Not used
NSP	17	Name Label (507XA)	Not used	AAL2815	AAL2814
	19	Bolt Caution Label	AAX3005	AAX3005	AAX3117
	22	Terminal Label A	AAX3337	AAX3398	AAX3332
	30	Input Cover Label E	AAX3396	AAX3396	AAX3375

2.3 FRONT SECTION



(1) FRONT SECTION PARTS LIST

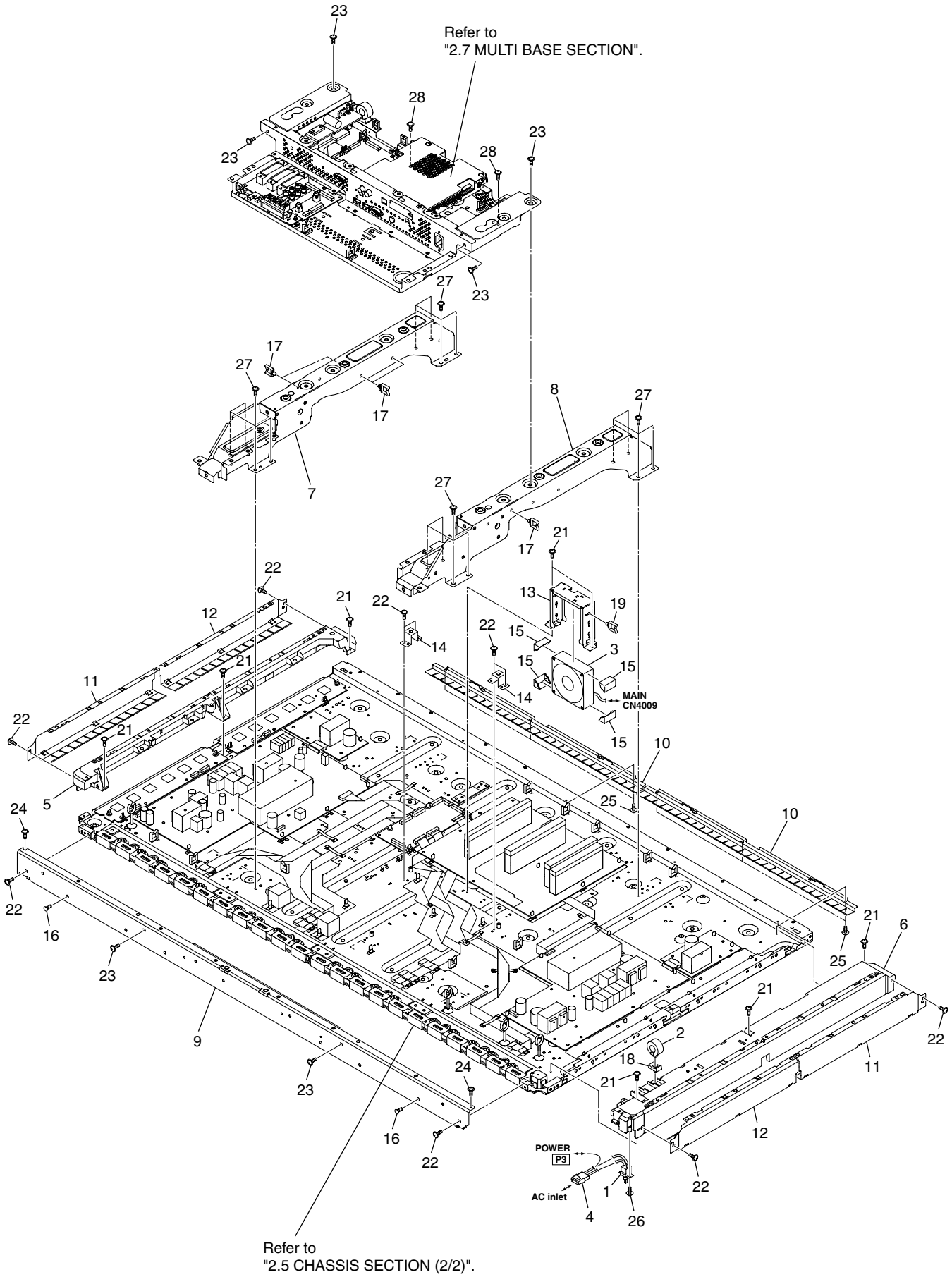
Mark	No.	Description	Part No.
	1	50 LED Assy	AWW1135
	2	LED IR Assy	AWW1136
	3	Front Case Assy	See Contrast table (2)
	4	Corner Cushion	AEB1416
	5	Pioneer Name Plate	AAM1098
	6	Coil Spring	ABH1120
	7	Blind Cushion	AEB1415
	8	Nyron Rivet	AEC1671
	9	Screw Rivet	AEC1877
	10	Insulation Sheet A	AED1283
	11	Insulation Sheet B	AED1284
	12	Power Button	AAD4133
	13	3P Housing Wire (J130)	ADX3424
	14	IR Block Cushion	AEB1465
	15	IR Reducer	AAX3455

(2) CONTRAST TABLE

PDP-507XD/WYVIXK5, PDP-507XA/WYVIXK5 and WYV5 are constructed the same except for the following:

Mark	No.	Symbol and Description	PDP-507XD /WYVIXK5	PDP-507XA /WYVIXK5	PDP-507XA /WYV5
	3	Front Case Assy (507PE/D)	AMB2945	Not used	Not used
	3	Front Case Assy (507PE/A)	Not used	AMB2946	AMB2946

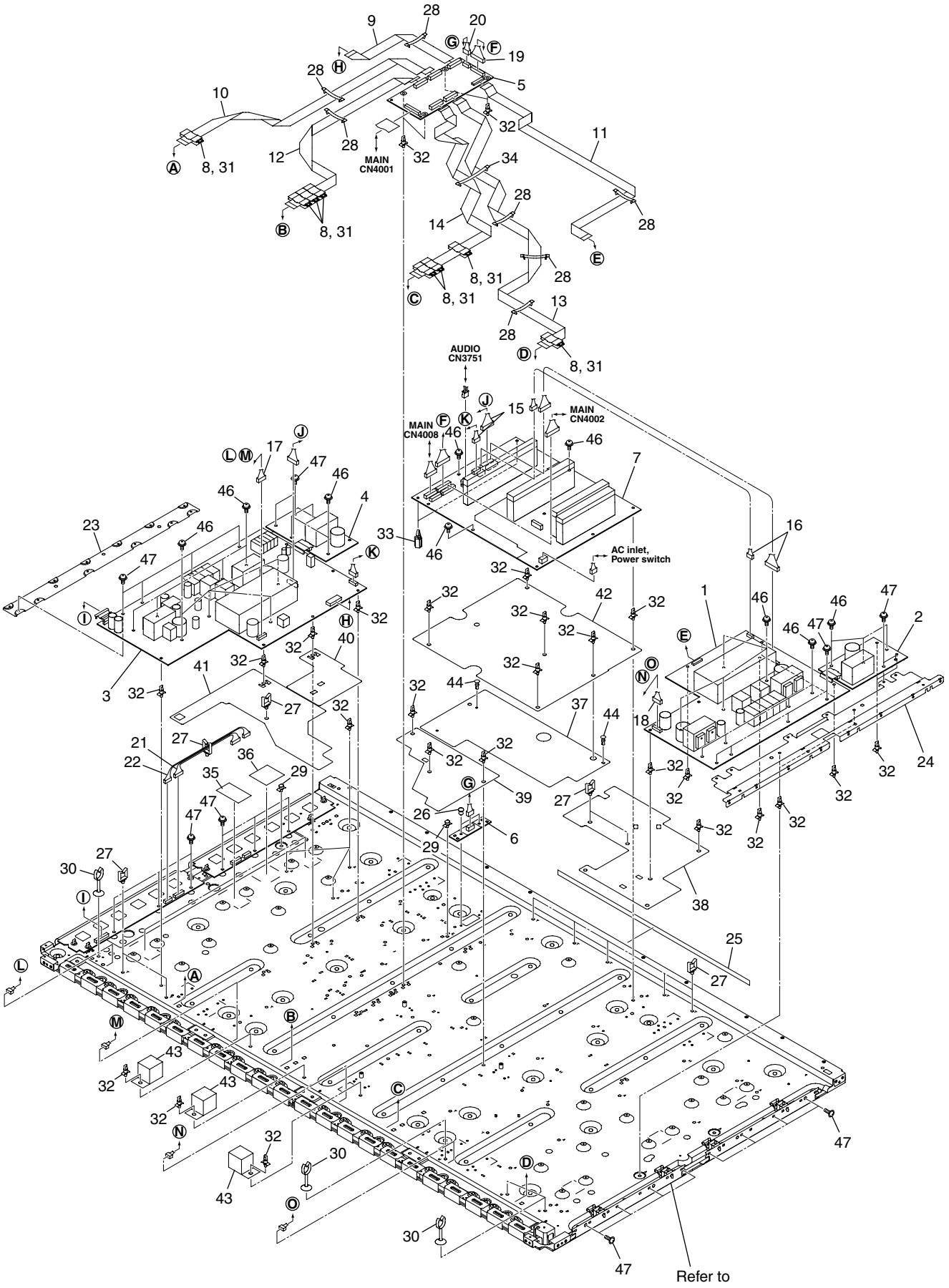
2.4 CHASSIS SECTION (1/2)



CHASSIS SECTION (1/2) PARTS LIST

Mark	No.	Description	Part No.
⚠	1	Power Switch (S1)	ASG1092
	2	Ferrite Core	ATX1044
⚠	3	Fan Motor 80 x 25L	AXM1059
	4	Housing Wire (J103)	ADX3320
	5	Front Chassis VL (50)	AMA1014
	6	Front Chassis VR (507)	AMA1022
	7	Sub Frame L Assy 507	ANA1945
	8	Sub Frame R Assy 507	ANA1946
	9	Front Chassis H Assy (507)	ANA2031
	10	Panel Holder H (50)	ANG2769
	11	Panel Holder V1 (50)	ANG2770
	12	Panel Holder V2 (50)	ANG2771
	13	Fan Holder	ANG2833
	14	Multi Base Holder	ANG2937
	15	Floating Rubber 80	AEB1427
	16	PCB Spacer	AEC1570
	17	Wire Saddle	AEC1745
	18	Ferrite Core Holder	AEC1818
	19	Re-use Wire Saddle	AEC1945
	20	•••••	
	21	Screw	ABA1351
	22	Screw	ABZ30P080FTC
	23	Screw	AMZ30P060FTB
	24	Screw	APZ30P080FTB
	25	Screw	BBZ30P060FTC
	26	Screw	BPZ30P080FTB
	27	Screw	TBZ40P080FTB
	28	Screw	ABA1364

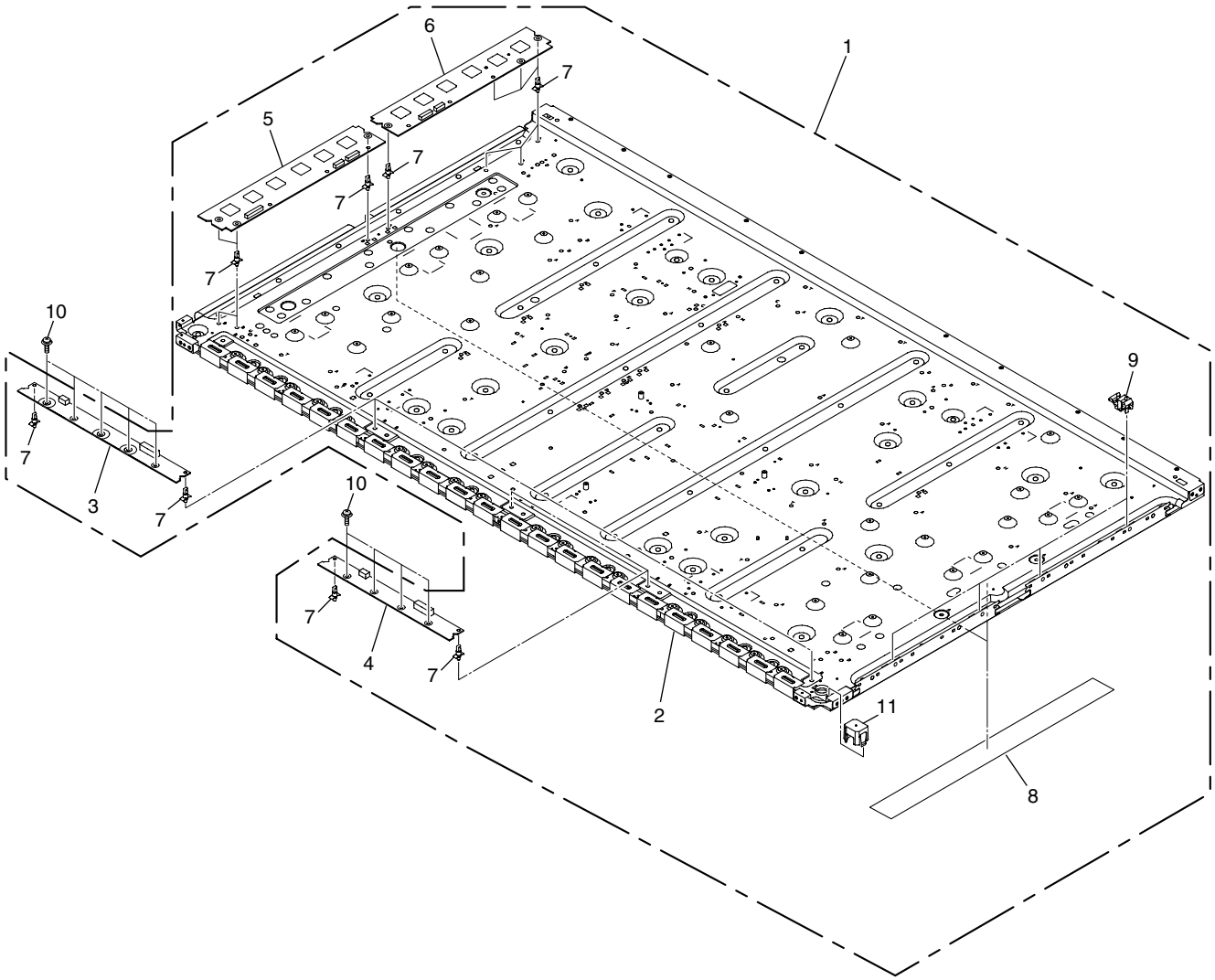
2.5 CHASSIS SECTION (2/2)



CHASSIS SECTION (2/2) PARTS LIST

Mark	No.	Description	Part No.
	1	50 X MAIN DRIVE Assy	AWW1143
	2	50 X SUB DRIVE Assy	AWW1144
	3	50 Y MAIN DRIVE Assy	AWW1145
	4	50 Y SUB DRIVE Assy	AWW1146
	5	50 DIGITAL Assy	AWW1139
	6	SENSOR Assy	AWW1140
⚠	7	POWER SUPPLY Unit	AXY1153
	8	Ferrite Core	ATX1048
	9	Flexible Cable (J201)	ADD1435
	10	Flexible Cable (J202)	ADD1436
	11	Flexible Cable (J206)	ADD1440
	12	Flexible Cable (J203)	ADD1463
	13	Flexible Cable (J205)	ADD1465
	14	Flexible Cable (J204)	ADD1466
	15	9P&6/5P Housing Wire (J101)	ADX3368
	16	8P&5P Housing Wire (J102)	ADX3369
	17	8P/4P Housing Wire (J108)	ADX3370
	18	8P/4P Housing Wire (J109)	ADX3371
	19	14P Housing Wire (J105)	ADX3323
	20	5P Housing Wire (J110)	ADX3328
	21	10P Housing Wire (J120)	ADX3378
	22	4P Housing Wire (J119)	ADX3377
	23	Conductive Plate Y	ANG2902
	24	Conductive Plate X	ANG2905
	25	Waterproof Cushion	AEB1424
	26	Nyron Rivet	AEC1671
	27	Wire Saddle	AEC1745
	28	Flat Clamp	AEC1879
	29	PCB Support	AEC1938
	30	Harness Lifter 28	AEC1982
	31	Ferrite Clamp	AEC1986
	32	Re-use PCB Spacer	AEC2087
	33	Tapping Card Spacer	AEC2103
	34	Flat Clamp 60	AEC2104
	35	Drive Silicone Sheet B	AEH1109
	36	Drive Silicone Sheet C	AEH1110
	37	Power Supply Sheet B (507)	AMR3555
	38	Address Sheet A	AMR3628
	39	Address Sheet B	AMR3629
	40	Address Sheet C	AMR3630
	41	Address Sheet D	AMR3631
	42	Power Supply Sheet (507)	AMR3634
	43	Gasket AV8	ANK1881
	44	Rivet A	BEC1158
	45	•••••	
	46	Screw	ABA1351
	47	Screw	ABA1364

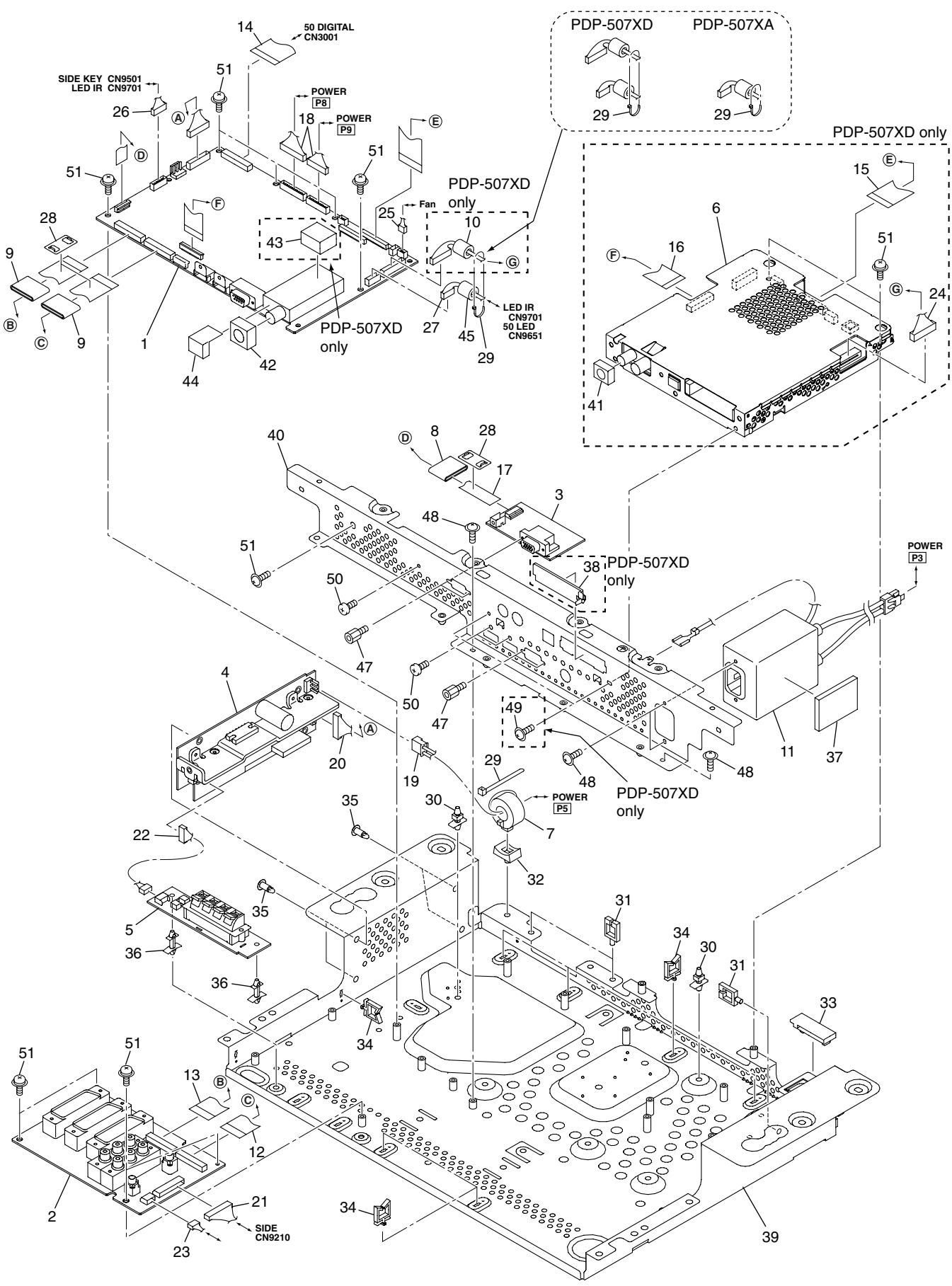
2.6 PANEL CHASSIS SECTION



PANEL CHASSIS SECTION PARTS LIST

Mark	No.	Description	Part No.
NSP	1	Panel Chassis (507) Assy	AWU1148
NSP	2	Plasma Panel (50DC) Assy	AWU1162
NSP	3	50 ADDRESS L Assy	AWW1141
NSP	4	50 ADDRESS S Assy	AWW1142
NSP	5	50 SCAN A Assy	AWW1147
NSP	6	50 SCAN B Assy	AWW1148
	7	Re-use PCB Spacer	AEC2088
NSP	8	Adhesive Tape (50)	AEH1119
	9	Conductive Plate Holder	AMR3446
	10	Screw	ABA1351
NSP	11	Tube Cover	AMR3445

2.7 MULTIBASE SECTION



(1) MULTIBASE SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	MAIN Assy	AWV2308
	2	TANSHI Assy	AWW1161
	3	PC Assy	AWW1163
	4	AUDIO Assy	AWW1131
	5	SP TERMINAL Assy	AWW1132
	6	R07 DT Assy	See Contrast table (2)
	7	Ferrite Core	ATX1044
	8	Ferrite Core	ATX1063
	9	Ferrite Core	ATX1064
	10	Filter	See Contrast table (2)
⚠	11	AC Inlet (CN1)	AKP1301
	12	Flexible Cable (J210)	ADD1441
	13	Flexible Cable (J211)	ADD1441
	14	Flexible Cable (J207)	ADD1445
	15	Flexible Cable (J214)	See Contrast table (2)
	16	Flexible Cable (J215)	See Contrast table (2)
	17	Flexible Cable (J213)	See Contrast table (2)
	18	13P&11P Housing Wire (J106)	ADX3324
	19	3P Housing Wire (J107)	ADX3325
	20	11P Housing Wire (J111)	ADX3329
	21	14P Housing Wire (J116)	ADX3374
	22	8/4P Housing Wire (J117)	ADX3376
	23	5P Housing Wire (J125)	ADX3389
	24	12P Housing Wire (J126)	See Contrast table (2)
	25	3P Housing Wire (J127)	ADX3421
	26	7/6/4/3P Housing Wire (J128)	ADX3422
	27	6P/3P Housing Wire (J129)	ADX3423
	28	Ferrite Stopper	AEC1981
	29	Binder	AEC-093
	30	Locking Card Spacer	AEC1429
	31	Wire Saddle	AEC1745
	32	Ferrite Core Holder	AEC1818
	33	Clamp	AEC1884
	34	Re-use Wire Saddle	AEC1945
	35	Locking Card Spacer	AEC2019
	36	Locking Card Spacer	AEC2093
	37	Inlet Spacer	AEC2112
	38	POD Cover	See Contrast table (2)
	39	Multi Base Assy	See Contrast table (2)
	40	Terminal Panel A	See Contrast table (2)
⚠	41	Gasket N	See Contrast table (2)
⚠	42	Gasket EA	ANK1855
⚠	43	Gasket AD	See Contrast table (2)
⚠	44	Gasket EB	ANK1899
	45	Filter	CTX1054
	46	•••••	
	47	Hex. Head Screw	BBA1051
	48	Screw	AMZ30P060FTB
	49	Screw	See Contrast table (2)
	50	Screw	BMZ30P060FTB
	51	Screw	PMB30P080FNI

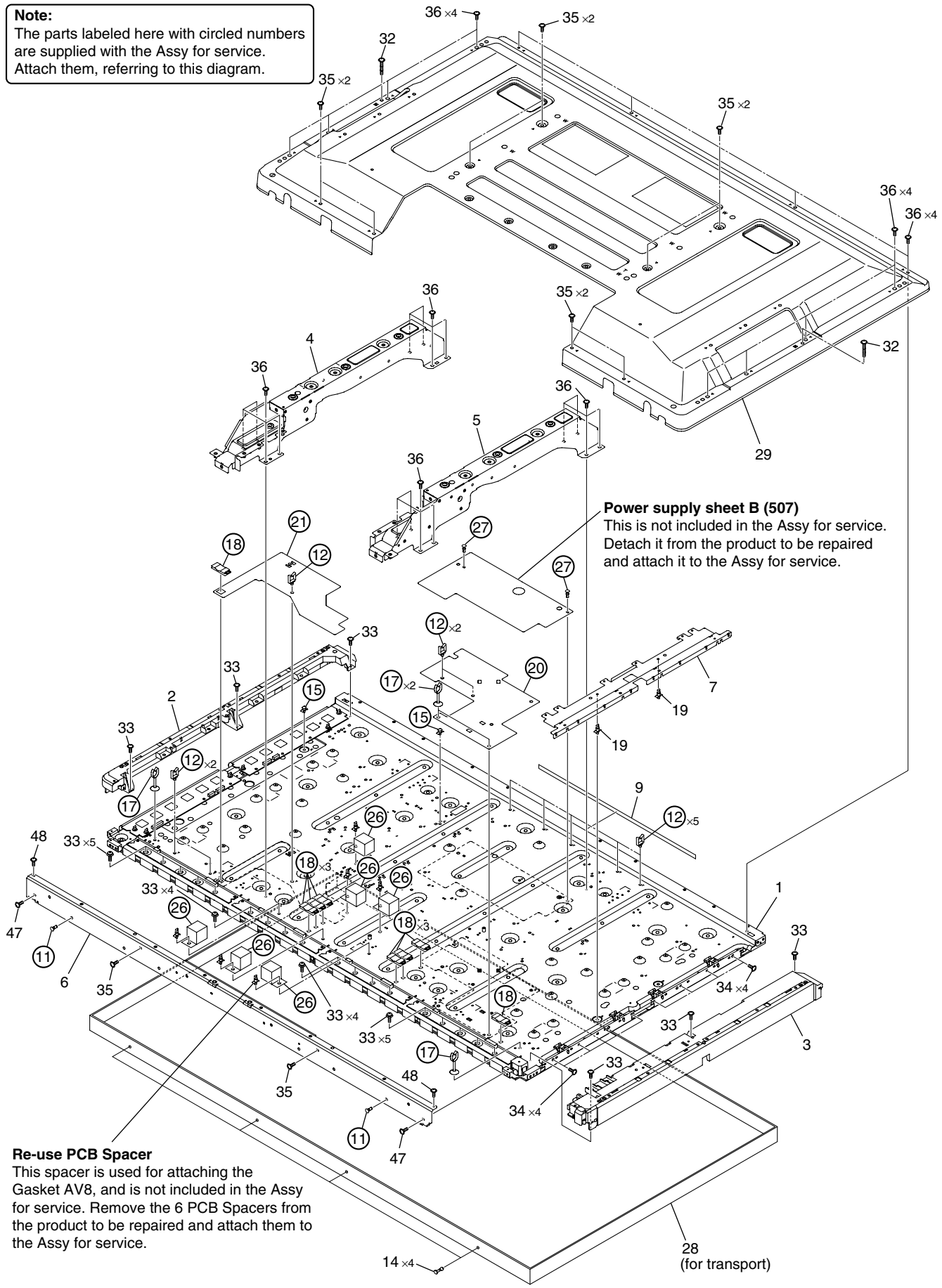
(2) CONTRAST TABLE

PDP-507XD/WYVIXK5, PDP-507XA/WYVIXK5 and WYV5 are constructed the same except for the following:

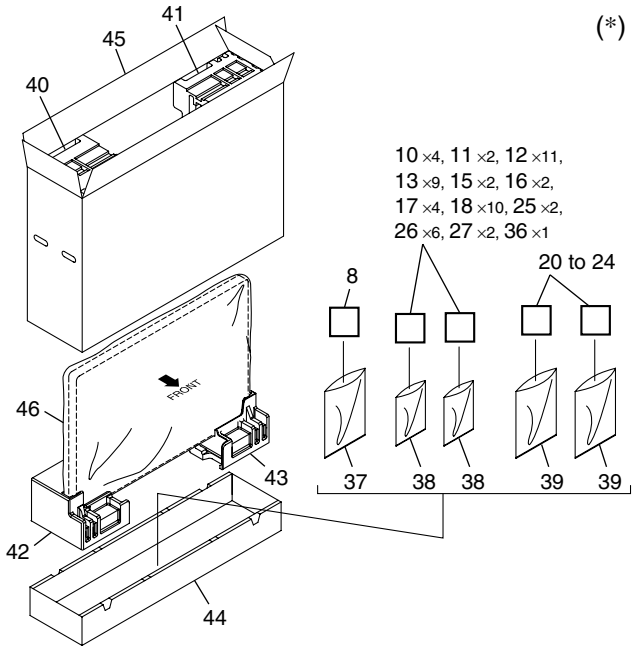
Mark	No.	Symbol and Description	PDP-507XD /WYVIXK5	PDP-507XA /WYVIXK5	PDP-507XA /WYV5
	6	R07 DT Assy	AWE1131	Not used	Not used
	10	Filter	CTX1054	Not used	Not used
	15	Flexible Cable (J214)	ADD1450	Not used	Not used
	16	Flexible Cable (J215)	ADD1451	Not used	Not used
	17	Flexible Cable (J213)	ADD1452	ADD1452	ADD1444
	24	12P Housing Wire (J126)	ADX3390	Not used	Not used
	38	POD Cover	AMR3542	Not used	Not used
	39	Multi Base (E) Assy	ANA1952	Not used	Not used
	39	Multi Base (G) Assy	Not used	ANA2019	ANA2019
	40	Terminal Panel A (E/H)	ANC2398	Not used	Not used
	40	Terminal Panel A (E/T)	Not used	ANC2399	ANC2399
⚠	41	Gasket N	ANK1776	Not used	Not used
⚠	43	Gasket AD	ANK1863	Not used	Not used
	49	Screw	BZ30P060FTB	Not used	Not used

2.8 PDP SERVICE ASSY 507 (AWU1212)

Note:
The parts labeled here with circled numbers are supplied with the Assy for service. Attach them, referring to this diagram.



● Packing Section



(*)

No.	Part Name	Part No.	No. of pcs	Remarks
8	Clamp base	ANG3030	×1	Not used
10	PCB spacer	AEC1126	×4	Not used
12	Wire saddle	AEC1745	×11	Ten of the 11 wire saddles are to be used with this unit. Attach them to the places where T indications are engraved.
13	Wire saddle	AEC1751	×9	Not used
15	PCB support	AEC1938	×2	Attach them to the places where C indications are engraved.
16	PCB support	AEC1958	×2	Not used
17	Harness lifter 28	AEC1982	×4	Attach them to the places where U indications are engraved.
18	Ferrite clamp	AEC1986	×10	Eight of the 10 ferrite clamps are to be used with this unit.
22	DC sheet A	AMR3612	×1	Not used
23	Address sheet E	AMR3621	×1	Not used
24	Address sheet D	AMR3631	×1	Not used
25	Gasket E	ANK1874	×2	Not used
36	Screw	TBZ40P080FTB	×13	Twelve screws have been already secured to the Assy. The remaining one screw packed in a plastic bag is not used with this unit.

PDP SERVICE ASSY 507 (AWU1212) PARTS LIST

Mark	No.	Description	Part No.
NSP	1	Panel Chassis (507) Assy	AWU1148
	2	Front Chassis VL (50)	AMA1014
	3	Front Chassis VR (507)	AMA1022
	4	Sub Frame L Assy 507	ANA1945
	5	Sub Frame R Assy 507	ANA1946
	6	Front Chassis H Assy (507)	ANA2031
	7	Conductive Plate X	ANG2905
	8	Clamp Base (*)	ANG3030
	9	Cushion	AEB1424
NSP	10	PCB Spacer (*)	AEC1126
	11	PCB Spacer	AEC1570
	12	Wire Saddle (*)	AEC1745
	13	Wire Saddle (*)	AEC1751
	14	Screw Rivet	AEC1877
	15	PCB Support (*)	AEC1938
	16	PCB Support (*)	AEC1958
	17	Harness Lifter 28 (*)	AEC1982
	18	Ferrite Clamp (*)	AEC1986
	19	Re-use PCB Spacer	AEC2087
	20	Address Sheet A	AMR3628
	21	Address Sheet F	AMR3646
	22	DC Sheet A (*)	AMR3612
	23	Address Sheet E (*)	AMR3621
	24	Address Sheet D (*)	AMR3631
	25	Gasket E (*)	ANK1874
	26	Gasket AV8	ANK1881
	27	Rivet A	BEC1158
NSP	28	Front Case Assy (507SV)	AMB2977
	29	Rear Case (507)	ANE1656
	30	Caution Label	AAX3031
NSP	31	Drive Voltage Label	ARW1097
	32	Screw (3 x 40P)	ABA1332
	33	Screw	ABA1351
	34	Screw	ABA1364
	35	Screw	AMZ30P060FTB
	36	Screw (*)	TBZ40P080FTB
	37	Polyethylene Bag	AHG1337
	38	Polyethylene Bag S	AHG1338
	39	Polyethylene Bag	AHG1340
	40	Pad (507 T-L)	AHA2538
	41	Pad (507 T-R)	AHA2539
	42	Pad (507 B-L)	AHA2540
	43	Pad (507 B-R)	AHA2541
	44	Under Carton (507)	AHD3473
	45	Upper Carton (507SV)	AHD3550
	46	Protect Sheet	AHG1331
	47	Screw	ABZ30P080FTC
	48	Screw	APZ30P080FTB

3. PCB PARTS LIST

NOTES: ● *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
● *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
● *When ordering resistors, first convert resistance values into code form as shown in the following examples.*
Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 Ω → 56 x 10[1] → 561 ..... RD1/4PU[5][6][1]J
47k Ω → 47 x 10[3] → 473 ..... RD1/4PU[4][7][3]J
0.5 Ω → R50 ..... RN2H[R][5][0]K
1 Ω → 1R0 ..... RS1P[1][R][0]K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω → 562 x 10[1] → 5621 ..... RN1/4PC[5][6][2][1]F

LIST OF ASSEMBLIES

Mark	No.	Description	Part No.
NSP	1	..PANEL CHASSIS (507) ASSY	AWU1148
NSP	2	..50 ADDRESS ASSY	AWV2303
NSP	3	..50 ADDRESS L ASSY	AWW1141
NSP	3	..50 ADDRESS S ASSY	AWW1142
NSP	2	..50 SCAN ASSY	AWV2304
NSP	3	..50 SCAN A ASSY	AWW1147
NSP	3	..50 SCAN B ASSY	AWW1148
NSP	1	..50 X DRIVE ASSY	AWV2305
	2	..50 X MAIN DRIVE ASSY	AWW1143
	2	..50 X SUB DRIVE ASSY	AWW1144
NSP	1	..50 Y DRIVE ASSY	AWV2306
	2	..50 Y MAIN DRIVE ASSY	AWW1145
	2	..50 Y SUB DRIVE ASSY	AWW1146
NSP	1	..50 DIGITAL ASSY	AWV2302
	2	..50 DIGITAL ASSY	AWW1139
	2	..SENSOR ASSY	AWW1140
	1	..R07 DT ASSY (E) (507XD only)	AWE1311
	1	..MAIN ASSY (STEPUP)	AWV2318
NSP	1	..I/O ASSY (STEPUP)	AWV2319
	2	..TANSHI ASSY	AWW1161
	2	..SIDE ASSY	AWW1162
	2	..PC ASSY	AWW1163
NSP	1	..50 AUDIO FUKUGO ASSY	AWV2346
	2	..AUDIO ASSY	AWW1131
	2	..SP TERMINAL ASSY	AWW1132
	2	..SIDE KEY ASSY	AWW1133
	2	..50 LED ASSY	AWW1135
	2	..LED IR ASSY	AWW1136
⚠	1	..POWER SUPPLY UNIT	AXY1153

R07 DT ASSY (E) (507XD only)

MISCELLANEOUS

Mark	No.	Description	Part No.
	9		XNG1002
	11		ANG2673
	12–15		PMZ20P100FNI
	16-18		ABZ30P060FTC

[TUNER BLOCK]
SEMICONDUCTORS

Mark	No.	Description	Part No.
IC	1000		UPC3221GV
IC	1001		STV0361L
Q	1001		2SC2412K
Q	1002		DTC124EUA
Q	1003,1004		RK7002
⚠D	1000		SM15T6V8A
D	1001		1SS355

MISCELLANEOUS

Mark	No.	Description	Part No.
L	1000		XTX1005
L	1002		LCYAR82J2520
L	1004		XTX1003
L	1200		XTX1001
F	1000		XTF1002
F	1001,1003–1010		VTF1091
F	1012–1014,1100,1101		VTF1091
F	1202–1204		VTF1091
X	1100		XSS1010
⚠FU	1200		XEK1003
⚠M	1000		XXF1008

CAPACITORS

Mark	No.	Description	Part No.
C	1001–1003,1017,1022		CKSRYB104K16
C	1004,1055		CEHVKW101M6R3
C	1010		CEHVKW2R2M50
C	1013,1021,1040,1041		CKSRYB103K50
C	1015		CKSRYB102K50
C	1018,1027,1029,1050		CEHVKW470M16
C	1019		CEHVKW100M50
C	1020		CEHVKW100M16
C	1025,1026,1030–1035		CKSRYB104K16
C	1028,1038,1042,1046		CCG1205
C	1036		CKSRYB105K10
C	1037,1039,1049,1053		CKSRYB104K16
C	1043,1044		CCSRCJ3R0C50
C	1045		CKSRYB103K50
C	1051		CCG1205
C	1054		BCG1050
C	1056,1057		CEHVKW470M16
C	1058–1062		CKSRYB104K16
C	1102		CEHVKW331M6R3

[DEMUX BLOCK]
SEMICONDUCTORS

Mark	No.	Description	Part No.
IC	2000		STI5517DWAL
IC	2001		SN74LVU04APW
IC	2002		TC74VHC08FTS1
Q	2000		2SC4081

Mark	No.	Description	Part No.
D	2000		DA204U
D	2001		UDZS8R2(B)
D	2002		HVU307
D	2005,2009		RB501V-40
VA	2002		AVR-M1608C120MT2AB
MISCELLANEOUS			
L	2000		XTX1003
F	2000–2003		VTF1091
X	2000		BSS1112
X	2001		ASS1172
RESISTORS			
R	2010,2018,2042		RAB4C103J
R	2070,2071		RAB4CQ220J
Other Resistors			RS1/16S###J
CAPACITORS			
C	2000,2026,2030		CCSRCH101J50
C	2001		CKSRYB471K50
C	2002,2003,2005,2006		CKSRYF104Z16
C	2004		CKSRYF474Z16
C	2007		CCSRCH471J50
C	2008,2017,2020,2021		CKSRYB102K50
C	2009		CCSRCH330J50
C	2011,2012		CCSRCH390J50
C	2013		CKSRYB105K10
C	2014,2016		CCSRCH100D50
C	2015		CKSRYF105Z10
C	2018,2019,2022–2025		CKSRYF104Z16
C	2027,2029,2042,2046		CKSRYF223Z50
C	2028,2035,2037–2041		CKSRYF104Z16
C	2032–2034,2036		CEHVKW470M16
C	2043–2045,2047,2048		CKSRYF104Z16
[MEMORY BLOCK]			
SEMICONDUCTORS			
IC	3000,3003		K4S281632I-UC75
IC	3002		XGC1003
MISCELLANEOUS			
L	3003		XTX1003
L	3005		XTX1001
RESISTORS			
R	3004–3014		RAB4CQ470J
Other Resistors			RS1/16S###J
CAPACITORS			
C	3000,3003,3007,3008		CKSRYF104Z16
C	3001,3002,3004,3014		CKSRYF223Z50
C	3010		CEHVKW470M16
C	3012,3017,3020–3022		CKSRYF104Z16
C	3015,3018,3019,3023		CKSRYF223Z50
C	3024		CKSRYF223Z50
[AV BLOCK]			
SEMICONDUCTORS			
IC	4000		CS4334-KS
IC	4001		SN74LVU04APW
IC	4002		RC4558D
IC	4003		CS8406CZZ
IC	4100		PCM1803DB
Q	4001,4002		2SC4081
MISCELLANEOUS			
F	4000,4100		VTF1091
JA	4000		GP1FM513TZ
X	4000		XSS1006
CN	4000		AKM1348
RESISTORS			
R	4042,4045,4046		RS1/16S2000F
Other Resistors			RS1/16S###J
CAPACITORS			
C	4000,4002		CCG1205
C	4001,4014,4032,4033		CKSRYB103K50
C	4003,4005,4017,4018		CKSRYF104Z16
C	4004		CEHVKW2R2M50
C	4006		CKSRYB102K50
C	4007,4013		CCSRCH220J50
C	4008,4009		CCSRCH121J50
C	4010,4011,4042		CCSRCH101J50
C	4012,4022,4023,4029		CEHVKW470M16
C	4019,4102–4104		CEHVKW100M16
C	4021,4024,4043		CKSRYF104Z16
C	4038		CKSRYB103K50
C	4039		CEHVKW470M16
C	4040,4041		CKSRYB105K10
C	4105–4107		CKSRYF104Z16
C	4108–4113		CEHVKW100M16
[CI BLOCK]			
SEMICONDUCTORS			
IC	5000		ST890CDR
IC	5001		CIMAXSP2L
IC	5002		TC74LCX245FTS1
IC	5003,5004		TC74LCX373FT
Q	5000		2SC4081
Q	5001		DTA143EUA
Q	5002		DTC124EUA
MISCELLANEOUS			
CN	5000		XKP1003
RESISTORS			
R	5014,5019,5022,5024		RAB4CQ470J
R	5030,5032,5036–5038		RAB4CQ470J
R	5045–5050		RAB4CQ470J
Other Resistors			RS1/16S###J
CAPACITORS			
C	5001		CKSRYB105K10
C	5003,5004,5006		CKSRYF104Z16
C	5005,5100		CEHVKW470M16
C	5008-5013		CKSRYF104Z16
[POWER BLOCK]			
SEMICONDUCTORS			
IC	6001		M5291FP
IC	6002		BA05FP
IC	6003		FPF2003
IC	6200		TC74LCX245FTS1
IC	6300		SN74LVC1G08DCK

Mark	No.	Description	Part No.
Q	6001,6009,6011,6200		DTC124EUA
Q	6003,6005,6010		DTA143EUA
Q	6006		2SB1188
Q	6008		TPC8209
Q	6100		2SC4081
D	6001		RSX201L-30
D	6003,6100–6102		1SS355
D	6103		UDZS30(B)

MISCELLANEOUS

L	6000		LCYAR82J2520
L	6001,6100,6101		XTH1001
F	6000		VTF1091
CN	6000		AKM1298
CN	6003		AKM1349

RESISTORS

R	6012–6014		RAB4C2R2J
R	6031		RAB4CQ221J
R	6204,6205		RAB4CQ101J
Other Resistors			RS1/16S###J

CAPACITORS

C	6000,6026,6104–6106		CEHVKW331M6R3
C	6001,6011,6013–6015		CEHVKW470M16
C	6002,6035		CKSRYF223Z50
C	6003,6005,6006,6012		CKSRYF104Z16
C	6004		CEHVKW100M50
C	6008,6016		CKSRYF474Z16
C	6010		CCSRCH331J50
C	6017,6028,6036,6042		CEHVKW101M6R3
C	6018,6020,6021,6025		CKSRYF104Z16
C	6019,6023,6100		CEHVKW470M16
C	6022		CKSRYB103K50
C	6027		CCSRCH101J50
C	6029,6030,6033,6038		CKSRYF104Z16
C	6031		CEHVKW2R2M50
C	6044		CEHVKW101M6R3
C	6102		CCG1191
C	6200,6300		CKSRYF104Z16

50 DIGITAL ASSY

[DIGITAL IF BLOCK]

MISCELLANEOUS

F	3001		CCG1162
CN	3001		AKM1353
CN	3002		AKM1235

RESISTORS

R	3007,3010-3016		RAB4C470J
R	3020–3022		RAB4C103J
Other Resistors			RS1/16SS###J

[MODULE UCOM BLOCK]

SEMICONDUCTORS

IC	3152,3153		SN74AHC541PW
IC	3155		SN74AHC08PW
IC	3156		BR24L04FJ-W
IC	3157		M62334FP
IC	3159		TC7W126FU
IC	3160,3161		TC74VHC123AFTS1
Q	3151		2SJ461A
D	3151,3152,3154,3155		DAN202U
D	3158,3159,3161–3163		1SS355

MISCELLANEOUS

X	3151		CSS1616
CN	3151		AKM1276
CN	3152		CKS4828

RESISTORS

R	3155,3160,3170,3176		RAB4C101J
R	3174		RAB4C103J
Other Resistors			RS1/16SS###J

CAPACITORS

C	3151		CEHVKW470M6R3
C	3152,3153,3155–3158		CKSSYB104K10
C	3159,3171,3172,3182		CKSRYB105K6R3
C	3162,3163,3165,3166		CKSSYB104K10
C	3164		CCSSCH101J50
C	3167		CKSSYB103K16
C	3168,3170,3181		CKSSYB104K10

[PANEL FLASH BLOCK]

SEMICONDUCTORS

IC	3302,3305		PST3628UR
IC	3303		SN74AHC08PW
IC	3304		PST3610UR
Q	3301		RN1901
Q	3302		HN1C01FU

MISCELLANEOUS

X	3302		ASS1188
CN	3301		CKS4835

RESISTORS

R	3307,3308		RAB4C101J
Other Resistors			RS1/16SS###J

CAPACITORS

C	3301–3303,3306,3308		CKSSYB104K10
C	3304,3307,3309		CKSSYB472K16
C	3305,3310		CKSSYB102K50
C	3311		CCSRCH470J50
C	3315,3316		CKSSYB104K10
C	3317		CCSRCH471J50

[SQ ASIC BLOCK]

SEMICONDUCTORS

IC	3401		PEG239A

MISCELLANEOUS

L	3401-3403		QTL1013
F	3401,3402		CCG1162

RESISTORS

R	3402,3412		RAB4C101J
R	3405–3407,3409,3410		RAB4C220J
R	3416		RAB4C220J
R	3425		RS1/16SS5601F
Other Resistors			RS1/16SS###J

CAPACITORS

C	3401,3402,3419,3425		CEHVKW101M6R3
C	3403–3413,3417,3418		CKSSYB104K10
C	3420–3424,3426–3432		CKSSYB104K10

Mark	No.	Description	Part No.
C	3445–3448		CKSSYB104K10
		[ADDRESS CN BLOCK]	
		SEMICONDUCTORS	
Q	3501,3502		RN1901
D	3501,3502		DAN202U
		MISCELLANEOUS	
CN	3501–3504,3506		AKM1348
CN	3505		VKN1310
		RESISTORS	
R	3519,3520		RAB4C472J
R	3521,3522,3525		RAB4C101J
R	3524		RAB4C222J
Other Resistors			RS1/16SS###J
		[DIGITAL DD CON BLOCK]	
		SEMICONDUCTORS	
IC	3601		BA80BC0WFP
		MISCELLANEOUS	
U	3601		AXY1137
		RESISTORS	
R	3611		RAB4C101J
Other Resistors			RS1/16SS###J
		CAPACITORS	
C	3609		CKSSYB104K10
C	3611		CKSQYB105K16
C	3612		ACH1394
C	3613		CKSSYB103K16

SENSOR ASSY

		SEMICONDUCTORS	
IC	3651		MM1522XU
IC	3652		BR24L02FJ-W
Q	3651		HN1B04FU
		MISCELLANEOUS	
CN	3651		AKM1276
All Resistors			RS1/16SS###J
		CAPACITORS	
C	3651,3653		CKSRYB105K6R3
C	3652,3654		CKSSYB103K16
C	3656,3657		CKSSYB104K10

50 X MAIN DRIVE ASSY

		[50X LOGIC BLOCK]	
		SEMICONDUCTORS	
IC	1001		TC74ACT541FT
IC	1002		TC74VHC00FTS1
D	1001–1004		1SS355
		MISCELLANEOUS	
K	1004,1007		AKX1061
CN	1001		VKN1310
		RESISTORS	
R	1001,1006		RAB4C470J
R	1004		RAB4C472J
VR	1001		CCP1390
Other Resistors			RS1/16S###J
		CAPACITORS	
C	1001		CEHAT470M16
C	1002,1003		CKSRYB104K16
C	1004		CCSRCH331J50
C	1006		CCSRCH680J50
		[50X RESONANCE BLCOK]	
		SEMICONDUCTORS	
IC	1101,1105		TND307TD
IC	1102		PS9117P
IC	1104		AXF1163
IC	1107		PS2701A-1(L)
Q	1101		2SC2412K
Q	1102,1103		QSZ2
Q	1104,1105		2SC4081
D	1101,1103		UDZS5R6(B)
D	1102		CRH01
D	1104		UDZS15(B)
		MISCELLANEOUS	
L	1101		ATH1217
L	1106		ATH1216
F	1101		CTF1449
1101			ANH1653
1102A			EH1092
1103			BMZ30P080FTC
		RESISTORS	
R	1107,1108		RS3LMF100J
R	1109,1110		RS1/10S4702F
R	1113		RS1/16S1002F
R	1114		RS1/16S3302F
R	1115		ACN1259
R	1119		ACN1258
R	1121		RS1/16S4701F
Other Resistors			RS1/16S###J
		CAPACITORS	
C	1101,1114		CEHAT470M25
C	1102,1115		CKSRYF104Z50
C	1103		CKSRYB104K16
C	1104,1117		CKSYB105K25
C	1107,1116		ACG1126
C	1113		ACH1450
C	1121–1124		ACE1178
		[50X SUS BLOCK]	
		SEMICONDUCTORS	
IC	1201,1204,1206,1208		TND307TD
IC	1202,1205		PS9117P
IC	1209		MM1565AF
Q	1201,1208		2SC2412K
Q	1202,1204,1205,1207		H5N2512LS
Q	1209,1212–1214		QSZ2
Q	1210,1211		FKP280AS
Q	1215,1221		FKP300AS
Q	1216		DTC143EK
Q	1217		DTC123TKA

Mark	No.	Description	Part No.
Q	1220		R5009ANJ
D	1201,1205		UDZS5R6(B)
D	1202,1203,1206,1211		CRH01
D	1204		D1FL40
D	1208		1SS302
D	1209		UDZS16(B)
D	1210		1SS355
D	1212		CRH01
D	1213		UDZS8R2(B)

MISCELLANEOUS

L	1201,1203,1204		BTH1134
L	1202		ATH1186
F	1227		CTF1449
K	1202		AKX1061
KN	1201–1204,1210–1217		ANK1841
CN	1201		14PL-FJ
CN	1204		B8B-EH
1202			PMB30P080FNI

RESISTORS

R	1208,1210,1213,1215		RS1/10S100J
R	1211		ACN1254
R	1219,1228,1230,1231		RS1/10S0R0J
R	1220,1224,1233,1256		RS1/10S2R2J
R	1237		RS1/10S0R0J
R	1239		ACN1258
R	1245		ACN1257
R	1247,1248		RS3LMF470J
Other Resistors			RS1/16S###J

CAPACITORS

C	1201,1212		ACG1126
C	1202,1209,1232,1236		CKSRYB104K16
C	1203,1208,1215,1229		CKSRYF104Z50
C	1205,1206,1217,1218		ACG1139
C	1207,1214,1220,1226		CEHAT470M25
C	1210,1211,1216,1241		CKSYB105K25
C	1213		CCSRCH221J50
C	1222,1223		ACH1423
C	1224,1225		ACE1178
C	1228		CEHAT2R2M2E
C	1230		ACH1449
C	1231,1237		CEHAT101M10
C	1233		CKSRYB473K16
C	1234		CEHAT470M16
C	1235		CKSRYB105K6R3
C	1244		CKSRYB104K25

[50X D-D CON BLOCK]

SEMICONDUCTORS

IC	1301		PS2701A-1(L)
IC	1302		TA76431FR
Q	1301		2SC2412K
Q	1303,1306,1307		HN1C01FU
Q	1304,1401		2SD1898
Q	1305		2SA1037K
Q	1402		2SC4081
D	1307		CRF03
D	1308,1403		UDZS5R1(B)
D	1309,1311,1401,1405		CRH01
D	1312,1402		1SS301
D	1313,1318,1404,1406		1SS355
D	1315,1316		UDZS4R7(B)

MISCELLANEOUS

T	1302		ATK1160
T	1401		ATK1159

RESISTORS

R	1312–1314,1317		RS1/10S224J
R	1328		RAB4C472J
VR	1301		CCP1392
Other Resistors			RS1/16S###J

CAPACITORS

C	1301,1302,1405,1406		CKSRYB104K16
C	1308,1401,1407		CEHAT101M25
C	1310,1313,1402		CKSYB105K25
C	1311		ACH1451
C	1312,1403		CKSRYB103K50
C	1314		CEHAT100M50
C	1404		ACG1105

50 X SUB DRIVE ASSY

SEMICONDUCTORS

Q	1501		FKP280AS
Q	1502		FKP300AS
Q	1504,1505		H5N2512LS
Q	1507		QSZ2
D	1501		CRH01

MISCELLANEOUS

K	1501		AKX1061
KN	1501–1505		ANK1841
CN	1501		14R-FJ
1502			PMB30P080FNI

RESISTORS

R	1502,1503		RS1/10S2R2J
R	1507,1508		RS1/10S100J
Other Resistors			RS1/16S###J

CAPACITORS

C	1501		ACE1178
C	1503,1504		ACG1139
C	1505		ACH1423
C	1506		CKSYB105K25

[DRIVE HEATSINK M]

MISCELLANEOUS

3001,3001			ANH1656
3101,3101			ANG2679

RESISTORS

All Resistors			RS1/16S###J

50 Y MAIN DRIVE ASSY

[50Y LOGIC BLOCK]

SEMICONDUCTORS

IC	2001,2003		TC74ACT541FT
IC	2002		TC74ACT540FT
D	2001,2006,2007,2011		1SS355
D	2003–2005		1SS301

Mark	No.	Description	Part No.
D	2012		1SS355
MISCELLANEOUS			
K	2011,2014		AKX1061
CN	2001		AKM1348
RESISTORS			
R	2001,2003,2008,2020		RAB4C470J
R	2002,2006		RAB4C101J
R	2004,2005,2013,2025		RAB4C472J
VR	2001,2002		CCP1390
Other Resistors			RS1/16S###J
CAPACITORS			
C	2001		CEHAT470M16
C	2002–2004		CKSRYB104K16
C	2005,2006		CCSRCH331J50
C	2007		CCSRCH680J50
[50Y RESONANCE BLCOK]			
SEMICONDUCTORS			
IC	2101,2104		TND307TD
IC	2102		PS9117P
IC	2106		PS2701A-1(L)
IC	2107		AXF1163
Q	2101		2SC2412K
Q	2103,2106		QSZ2
Q	2110,2111		2SC4081
D	2101,2112		UDZS5R6(B)
D	2107		CRH01
D	2113		UDZS15(B)
MISCELLANEOUS			
L	2101		ATH1217
L	2103		ATH1216
F	2101		CTF1449
2101			ANH1653
2102			AEH1092
2103			BMZ30P080FTC
RESISTORS			
R	2109		ACN1259
R	2112,2133		ACN1255
R	2113,2114		RS1/10S4702F
R	2118		ACN1241
R	2120		RS1/16S1002F
R	2121		RS1/16S3302F
R	2126		RS1/16S4701F
R	2129		ACN1258
Other Resistors			RS1/16S###J
CAPACITORS			
C	2101,2114		CEHAT470M25
C	2102,2115		CKSRYF104Z50
C	2103		CKSRYB104K16
C	2104,2116		CKSYB105K25
C	2107		ACG1139
C	2108–2111		ACE1178
C	2113		ACH1450
C	2117		ACG1138
[50Y SUS BLOCK]			
SEMICONDUCTORS			
IC	2201,2203,2205,2208		TND307TD

Mark	No.	Description	Part No.
IC	2204,2209		PS9117P
IC	2210		TND307TD
IC	2212		TND301S
IC	2213		MM1565AF
Q	2201		2SA2142
Q	2202,2214		2SC4081
Q	2203		R5009ANJ
Q	2204,2206,2207,2209		H5N2512LS
Q	2210,2216		FKP280AS
Q	2211,2213,2217,2219		H5N2512LS
Q	2215,2221,2222,2241		QSZ2
Q	2220,2223		FKP300AS
Q	2236		2SK3050
Q	2238		R6008ANJ
Q	2261		DTC143EK
Q	2262		DTC123TKA
D	2201,2202,2204,2209		CRH01
D	2203,2225		1SS355
D	2205,2206		1SS302
D	2207		CRF03
D	2208,2212		UDZS5R6(B)
D	2210,2213,2216		CRH01
D	2211		D1FL40
D	2219		1SS301
D	2220–2222,2231,2301		CRH01
D	2223,2224		UDZS16(B)
D	2241		UDZS8R2(B)
MISCELLANEOUS			
L	2201,2203,2204		BTH1134
L	2202		ATH1186
F	2201–2214		ATX1062
F	2221		CTF1449
K	2202–2204		AKX1061
KN	2201–2204,2210–2217		ANK1841
CN	2202		14PL-FJ
CN	2204		B9B-EH
2202			PMB30P080FNI
RESISTORS			
R	2201		RS3LMF821J
R	2202,2204		RS1/10S151J
R	2217,2219,2222,2224		RS1/10S100J
R	2225		ACN1254
R	2226,2235,2243,2246		RS1/10S2R2J
R	2228,2230,2236,2238		RS1/10S100J
R	2234,2255,2372		RS1/10S0R0J
R	2260		ACN1257
R	2264		ACN1258
R	2280		RS3LMF471J
R	2281–2284		ACN1241
R	2341,2343		RS2LMF5R6J
Other Resistors			RS1/16S###J
CAPACITORS			
C	2201,2209,2215,2222		CEHAT470M25
C	2202,2208,2210,2216		CKSRYF104Z50
C	2203		ACH1427
C	2204		CCSRCH102J50
C	2205,2256		ACG1126
C	2207,2217,2248,2253		CKSRYB104K16
C	2211,2212,2225,2226		ACG1139

Mark	No.	Description	Part No.
C	2218,2219,2224,2261		CKSYB105K25
C	2221		CCSRCH221J50
C	2223,2232		CKSRYF104Z50
C	2227,2231		CEHAT470M25
C	2234,2240		CEHAT2R2M2E
C	2237,2241		ACH1423
C	2238,2239		ACE1178
C	2244		ACH1449
C	2246		ACH1426
C	2247,2252		CEHAT101M10
C	2249		CKSRYB473K16
C	2250		CEHAT470M16
C	2251		CKSRYB105K6R3
C	2271,2276		CKSRYB104K25

[50Y VH D-D CON BLOCK]

SEMICONDUCTORS

IC	2401		BA10358F
IC	2402		MIP2E3DMU
IC	2403		PS2701A-1(L)
IC	2405,2412		TA76431FR
Q	2401		2SC3425
Q	2402		2SD2568
Q	2403		2SC4081
Q	2404		HN1C01FU
D	2402,2407		CRF03
D	2403		UDZS33(B)
D	2404		1SS355
D	2406,2410		UDZS4R7(B)
D	2408,2409		CRH01
D	2411		UDZS12(B)

MISCELLANEOUS

L	2401		BTH1136
T	2401		ATK1158

RESISTORS

R	2401,2402		RS1/10S104J
R	2403,2404,2406		RS1/10S2203F
R	2407,2410		RS1/16S5601F
R	2412		RS1/16S1003F
R	2413		RS1/16S1802F
R	2414,2415		RS1/16S4702F
R	2416		RS1/10S0R0J
R	2420,2421,2424		RS1/10S473J
R	2426		RAB4C472J
VR	2401		CCP1392
VR	2402		CCP1390
Other Resistors			RS1/16S###J

CAPACITORS

C	2401		ACE1177
C	2402		ACH1425
C	2403,2404		CKSRYB104K25
C	2405,2407,2412		CKSRYB104K16
C	2408		CEHAT101M16
C	2409		CEHAT470M25
C	2410		CEHAT101M25
C	2411		ACH1450
C	2413		CEHAT221M16
C	2421		ACH1451

Mark	No.	Description	Part No.

[50Y D-D CON BLOCK]

SEMICONDUCTORS

IC	2501,2502,2504		PS2701A-1(L)
IC	2503		BA10358F
IC	2506,2514		TA76431FR
Q	2501,2506,2511		2SD1898
Q	2502,2507		2SA1576A
Q	2503,2515		DTC143EUA
Q	2504,2509,2513		HN1C01FU
Q	2505		2SC2713
Q	2508		2SA2005
Q	2510		2SA1163
Q	2512,2514		2SC4081
Q	2520		2SC2412K
D	2501,2503,2510,2516		CRH01
D	2502,2512,2518		1SS301
D	2504,2508		UDZS4R7(B)
D	2505,2507,2513,2517		1SS355
D	2509		D1FL40
D	2511		1SS302
D	2515,2521		UDZS5R1(B)
D	2519,2520,2523		1SS355
D	2522		UDZS5R6(B)
D	2524		UDZS15(B)

MISCELLANEOUS

T	2501		ATK1156
T	2502		ATK1161
T	2503		ATK1159

RESISTORS

R	2510,2514,2539,2543		RS1/16S4701F
R	2513		RAB4C472J
R	2523		RS1/16S4702F
R	2524,2531		RS1/10S224J
R	2530,2532		RS1/16S1501F
R	2533		RS3LMF151J
R	2536		RS1/16S1002F
R	2544		RS1/16S4701F
R	2550		RS1/16S5601F
R	2554		RS1/16S6801F
VR	2501		CCP1390
Other Resistors			RS1/16S###J

CAPACITORS

C	2501,2502,2514		CEHAT101M25
C	2503,2515		ACG1105
C	2504		CKSRYB102K50
C	2505,2506,2512		CKSRYB104K16
C	2507		CEHAT221M6R3
C	2508		CEHAT221M25
C	2509,2510,2518		CKSRYB103K50
C	2511,2516		CKSRYB105K6R3
C	2513		CKSYB105K25
C	2517		CKSRYF104Z50
C	2519–2521,2525		CKSRYB104K16

[50Y SCAN BLOCK]

SEMICONDUCTORS

IC	2601–2603,2607		TLP116

Mark	No.	Description	Part No.
IC	2604–2606		PS9117P
IC	2610,2611		TC74AC540FT

MISCELLANEOUS

L	2601,2611		BTH1134
CN	2601		AKM1200

RESISTORS

R	2624		RAB4C220J
R	2631		RS1/10S0R0J
Other Resistors			RS1/16S###J

CAPACITORS

C	2601,2623		CEHAT101M10
C	2602,2603,2611–2617		CKSRYB104K16
C	2621,2622		ACH1450
C	2631		CKSRYB104K16

50 Y SUB DRIVE ASSY

SEMICONDUCTORS

Q	2701		FKP280AS
Q	2711		FKP300AS
Q	2721,2723,2725,2726		H5N2512LS
Q	2731		QSZ2
D	2701		CRH01

MISCELLANEOUS

F	2701–2706		ATX1062
K	2701		AKX1061
KN	2701,2702,2711–2713		ANK1841
CN	2701		14R-FJ
2702			PMB30P080FNI

RESISTORS

R	2702,2712		RS1/10S2R2J
R	2722,2724,2726,2727		RS1/10S100J
R	2732		RS1/10S0R0J
Other Resistors			RS1/16S###J

CAPACITORS

C	2701		ACE1178
C	2702		ACH1423
C	2703		ACG1088
C	2711,2721		ACG1139
C	2731		CKSYB105K25

[DRIVE HEATSINK M]

MISCELLANEOUS

3001,3001			ANH1656
3101,3101			ANG2679

RESISTORS

All Resistors			RS1/16S###J

MAIN ASSY

[BOARD IF BLOCK]

SEMICONDUCTORS

IC	4001–4005		TC74VCX541FT
Q	4001,4002,4005		DTC124EUA
Q	4003,4004		RN2902

MISCELLANEOUS

L	4001–4006		BTX1042
⚠F	4001–4010		CTF1557
CN	4001,4004,4005		AKM1349
CN	4006		KM200NA6
CN	4013		AKM1353
CN	4014		AKM1354
CN	4018		AKM1233

RESISTORS

R	4001		RAB4CQ470J
R	4021-4024		BCN1067
R	4030,4031,4035		RS1/16S0R0J
Other Resistors			RS1/16SS###J

CAPACITORS

C	4001–4003,4007,4009		CKSSYF104Z16
C	4004		CCSSCH101J50
C	4006,4036,4039		DCH1201
C	4008		DCH1165
C	4014		CKSSYF104Z16
C	4033,4051		CKSRYF104Z50
C	4048-4050		CCSSCH470J50

[REG 0 BLOCK]

SEMICONDUCTORS

IC	4101,4114,4115		S-1132B18-U5
IC	4102		LTC3414EFE
IC	4103		LTC3412EFE
IC	4104,4111,4113		NJM2846DL3-05
IC	4105		S-1170B25UC-OTK
IC	4106		S-1170B15UC-OTA
IC	4107		NJM2846DL3-33
IC	4108		NJM2846DL3-18
IC	4109,4110		PQ090DNA1ZPH
Q	4101,4103		RN1902
Q	4102		HN1C01FU
Q	4104		DTC124EUA
Q	4105,4106		UPA1917TE
Q	4107–4109		2SC4116
Q	4110		2SD2114K
D	4101–4110,4112–4118		1SS355
D	4111,4120,4122		1SS357
D	4121		1SS355

MISCELLANEOUS

L	4101,4103		BTX1042
L	4102,4105–4107		BTX1039
L	4108		ATH1208
L	4109		ATH1194
F	4101,4102		VTF1080
J	4101,4102		ADX3513

RESISTORS

R	4113,4134–4136,4140		RS1/10S0R0J
R	4119,4131,4146		RS1/16SS3003F
R	4120		RS1/16SS2003F
R	4123,4159		RS1/16SS1502F
R	4124		RS1/16SS6202F
R	4133		RS1/16SS1503F
R	4148,4164–4170,4173		RS1/10S0R0J
R	4157		ACN1268
Other Resistors			RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
C	4018,4101,4103,4106		CKSRYB105K10
C	4102,4104,4105,4107		DCH1201
C	4108		CKSRYB105K10
C	4109,4111–4113,4116		DCH1201
C	4110,4117		CCSSCH101J50
C	4114,4118		BCG1050
C	4119,4127,4131,4134		DCH1201
C	4121,4140,4153		CKSSYB104K10
C	4122,4129		CCSSCH220J50
C	4123,4124,4126,4130		DCH1165
C	4132		ACH1421
C	4135,4138,4143–4146		DCH1201
C	4136,4137,4141,4142		BCG1059
C	4139		CCSRCH471J50
C	4147		CCSRCH102J50
C	4150		ACH1429
C	4151		CKSSYB102K50
C	4154		CKSSYF104Z16
C	4155		CKSSYB103K16
C	4165		DCH1201

[ATUNER BLOCK]

SEMICONDUCTORS

IC	4501		MSP3417G
Q	4501		DTC124EUA
Q	4503		UMD2N
Q	4504		HN1B04FU
Q	4505		2SC4116
Q	4506		2SA1586
Q	4508		HN1C01FU
D	4501		UDZS24(B)
D	4502,4505		UDZS8R2(B)

MISCELLANEOUS

L	4501–4503		BTH1119
F	4501–4503		VTF1080
X	4501		ASS1196
⚠U	4501		AXF1172

RESISTORS

R	4517		RS1/16S330J
R	4522,4523		RS1/16S470J
Other Resistors			RS1/16SS###J

CAPACITORS

C	4501–4503		CKSRYF104Z50
C	4504		CKSRYB682K50
C	4505,4512		CCSSCH5R0D50
C	4506		CKSSYB103K16
C	4507,4508,4513,4514		CCSSCH100D50
C	4509,4515,4518		CKSSYB102K50
C	4511		CCSSCH560J50
C	4520		CEHVKW101M6R3
C	4521,4523,4525,4528		DCH1201
C	4527,4529,4536,4537		CKSSYF104Z16
C	4530,4532–4534,4538		DCH1201
C	4539,4543		CKSSYF104Z16
C	4541		DCH1201

[TEXT UCOM BLOCK]

SEMICONDUCTORS

IC	4601		SDA6000
IC	4602		HY57V641620ETP-H
IC	4603		AGC1020
IC	4606		TC74LCX125FT
IC	4607		TC7SH04FUS1
Q	4601,4602		UMD2N
D	4601		1SS355
D	4602		UDZS12(B)
D	4603		UDZS3R0(B)
D	4604		UDZS3R9(B)

MISCELLANEOUS

X	4601		ASS1193

RESISTORS

R	4601		ACN1251
R	4602–4606,4608,4625		BCN1067
R	4627,4650		RS1/16S0R0J
R	4640		RAB4CQ470J
R	4644,4646		RAB4CQ680J
R	4645,4647,4648		RAB4CQ103J
R	4649		RS1/10S0R0J
Other Resistors			RS1/16SS###J

CAPACITORS

C	4603,4612,4646,4650		DCH1201
C	4604		CKSSYB103K16
C	4605,4606		CCSSCH220J50
C	4607		CKSSYB102K50
C	4610,4611,4613,4615		CKSSYF104Z16
C	4617,4619,4621,4623		CKSSYF104Z16
C	4625,4627,4629,4631		CKSSYF104Z16
C	4633,4635,4636,4639		CKSSYF104Z16
C	4642,4644,4648,4651		CKSSYF104Z16
C	4647		CKSSYB104K10
C	4652,4655,4657,4659		CKSSYF104Z16

[AV SW BLOCK]

SEMICONDUCTORS

IC	4701		R2S11002AFT
IC	4702,4706		NJM12904V
IC	4703		PCM1803DB
IC	4704		NJU26901E2
IC	4705		PCM1754DBQ
Q	4701,4702,4721		UMD2N
Q	4703–4708,4715		2SA1586
Q	4711,4712,4716,4717		2SC4116
Q	4718		DTA124EUA
Q	4719,4720		2SC4116
Q	4722,4723		HN1B04FU
D	4701,4702,4704,4705		1SS301
D	4703		1SS355

MISCELLANEOUS

X	4701		ASS1204

RESISTORS

R	4736,4737		RS1/16S5600F
R	4739,4741		RS1/16S1800F
R	4794,4795,4851,4852		RS1/16S182J
R	4815–4817		RS1/10S0R0J
R	4849		RS1/16S472J
R	4853		RS1/16S222J

Mark	No.	Description	Part No.
R	4860,4861,4863,4865		RS1/16S102J
R	4866		RAB4CQ470J
	Other Resistors		RS1/16SS###J

CAPACITORS

C	4701,4723,4725,4731		CKSSYF104Z16
C	4702–4708,4710–4717		CKSRYB105K10
C	4718,4719		CCSRCH181J50
C	4720,4721		CCSRCH681J50
C	4722,4724,4726,4733		DCH1201
C	4727,4730		CKSSYB104K10
C	4728,4729		CKSRYB221K50
C	4732,4744,4751,4752		CKSSYF104Z16
C	4734,4749,4750,4757		DCH1201
C	4735,4736,4739-4742		CKSRYB105K10
C	4737		ACG1122
C	4745,4767,4768		DCH1165
C	4753		ACH1394
C	4754,4755,4759,4760		CKSRYB105K10
C	4756,4761,4763,4764		CKSSYF104Z16
C	4758,4762,4765		DCH1201
C	4766,4772–4774		CKSSYF104Z16
C	4769-4771		DCH1201
C	4775,4776		CKSSYB681K50
C	4777,4779		CKSSYB152K50
C	4778		CCSSCH221J50
C	4780–4783		CKSRYB105K10
C	4784,4785		CCSRCH331J50

[RGB SW BLOCK]

SEMICONDUCTORS

IC	4901		R2S11001FT
Q	4901–4903,4905		2SA1586
Q	4904,4906		HN1B04FU
D	4901–4903		UDZS4R7(B)

RESISTORS

R	4913–4918		RS1/16SS3301F
R	4919,4926,4930		RS1/16SS5600F
R	4921,4928,4932		RS1/16SS75R0F
R	4925		RAB4CQ102J
R	4964–4966		RS1/16S75R0F
	Other Resistors		RS1/16SS###J

CAPACITORS

C	4901–4903,4922,4932		CKSRYB105K10
C	4904		CCSRCH331J50
C	4905		CCSRCH680J50
C	4906–4910,4912-4915		CKSSYB103K16
C	4911,4935		CKSRYB474K10
C	4916,4923,4924,4926		CKSSYF104Z16
C	4917–4921		CKSSYB103K16
C	4925,4927		DCH1201
C	4928–4931		CKSSYF104Z16
C	4933		CKSRYB105K10

[VDEC BLOCK]

SEMICONDUCTORS

IC	5101		UPD64015AGM-UEU
IC	5102		EDS1616AGTA-75-E
IC	5103		TVP5150AM1PBS

Mark	No.	Description	Part No.

MISCELLANEOUS

F	5101		CCG1162
X	5101		ASS1189
X	5102		ASS1191

RESISTORS

R	5101–5105		ACN1246
R	5106,5107		BCN1067
R	5108–5110		RS1/16S0R0J
R	5127		RS1/16SS6200D
R	5133–5135		RS1/16SS2000F
R	5140		RS1/16S334J
R	5141		RS1/16SS2201D
R	5142		RS1/16SS1001D
R	5147,5148		RAB4CQ220J
R	5149–5151,5153,5155		RS1/10S0R0J
	Other Resistors		RS1/16SS###J

CAPACITORS

C	5101–5103		CKSRYB105K10
C	5104,5105		CCSSCH100D50
C	5106,5107,5136,5140		CKSSYB103K16
C	5108,5109		CCSSCH8R0D50
C	5113,5118,5119		DCH1201
C	5117,5120,5123,5125		CKSSYF104Z16
C	5121,5122,5124,5127		CKSSYB104K10
C	5126,5129,5131,5133		CKSSYF104Z16
C	5128,5130,5132,5134		CKSSYB104K10
C	5135,5137,5139		CKSSYB104K10
C	5138,5144,5155–5165		CKSSYF104Z16
C	5141–5143,5145,5151		CKSSYB104K10
C	5150		CKSSYB103K16
C	5153,5191		CKSSYB104K10

[ADC BLOCK]

SEMICONDUCTORS

IC	5301		AD9985KSTZ-110

RESISTORS

R	5301–5303		BCN1067
R	5305		RS1/16SS2701F
R	5307,5308,5312,5313		RS1/16SS470J
R	5310,5311		RS1/10S0R0J
	Other Resistors		RS1/16S###J

CAPACITORS

C	5301		CKSSYB823K10
C	5302		CKSSYB822K16
C	5303–5305		CKSSYB473K16
C	5307,5313		CKSSYB104K10
C	5308–5312,5314–5316		CKSSYF104Z16
C	5318,5319		CKSSYF104Z16

[HDMI BLOCK]

SEMICONDUCTORS

IC	5401		SII9023CTU
IC	5402		PCM1754DBQ
IC	5403,5404		BR24L02FJ-W
Q	5401,5402		HN1K02FU
Q	5407,5408		UMD2N
Q	5413,5414		RN1902
D	5401,5402		1SS301

Mark	No.	Description	Part No.
D	5407,5408		UDZS6R8(B)
	MISCELLANEOUS		
JA	5401,5402		AKP1278
X	5401		ASS1192
	RESISTORS		
R	5401–5403		BCN1071
R	5413,5429		RS1/10S0R0J
R	5450		RAB4CQ473J
R	5451		RAB4CQ100J
R	5452,5455		RAB4CQ103J
R	5454		RAB4CQ470J
	Other Resistors		RS1/16SS###J
	CAPACITORS		
C	5401,5402		CCSSCH120J50
C	5403,5404,5408,5410		CKSSYF104Z16
C	5405,5407,5452,5473		DCH1201
C	5406,5453		CCSSCH101J50
C	5412,5414,5416,5418		CKSSYF104Z16
C	5423,5426–5428,5430		CKSSYF104Z16
C	5432,5434,5436,5438		CKSSYF104Z16
C	5440,5442,5444,5445		CKSSYF104Z16
C	5447–5451,5455,5457		CKSSYF104Z16
C	5458,5460,5462,5464		CKSSYF104Z16
C	5466,5468,5469,5471		CKSSYF104Z16
C	5472		CKSSYF104Z16
	[DSEL BLOCK]		
	SEMICONDUCTORS		
IC	8001		PD6523A
IC	8002		TC74LCX125FT
IC	8003		TC74VCX574FT
	MISCELLANEOUS		
L	8001–8003		BTX1042
⚠F	8004		ATX1058
X	8001		ASS1194
	RESISTORS		
R	8001,8002		ACN1251
R	8003,8008		RAB4CQ680J
R	8004–8006		BCN1071
R	8009–8011		BCN1067
R	8026,8027		RAB4CQ101J
	Other Resistors		RS1/16SS###J
	CAPACITORS		
C	8002		CKSSYB102K50
C	8003,8005,8014–8020		CKSSYF104Z16
C	8025,8027		CKSSYF104Z16
C	8026		DCH1201
	[IP BLOCK]		
	SEMICONDUCTORS		
IC	8101		PE5504B
IC	8102,8103		EDS6432AFTA-75-E
	MISCELLANEOUS		
L	8101–8104		BTX1042
	RESISTORS		

Mark	No.	Description	Part No.
R	8101–8104,8106–8110		BCN1067
R	8105		BCN1071
R	8111,8116		ACN1246
R	8112–8115,8117		ACN1251
R	8123		RAB4CQ103J
R	8135		RAB4CQ470J
R	8136		RAB4CQ101J
	Other Resistors		RS1/16SS###J
	CAPACITORS		
C	8101		CKSSYB102K50
C	8112–8115,8117–8120		CKSSYF104Z16
C	8134–8145		CKSSYF104Z16
	[MULTI BLOCK]		
	SEMICONDUCTORS		
IC	8201		PEG121B
IC	8202		AGC1019
IC	8203		TC74VHC08FTS1
	MISCELLANEOUS		
L	8201–8205		BTX1042
	RESISTORS		
R	8201–8205		ACN1246
R	8206–8208,8255		ACN1251
R	8209		RS1/10S0R0J
R	8214,8215,8248		RAB4CQ103J
R	8225,8245		BCN1071
R	8246		BCN1073
R	8249		RAB4CQ680J
	Other Resistors		RS1/16SS###J
	CAPACITORS		
C	8202		CKSSYB102K50
C	8203–8205		DCH1201
C	8221–8234,8239		CKSSYF104Z16
	[IF UCOM BLOCK]		
	SEMICONDUCTORS		
IC	8301		AGC1016
IC	8302		PST9230N
IC	8303		TC74VHC08FTS1
IC	8304		TC7W126FU
IC	8305,8308		TC74VHC00FTS1
IC	8306		MAX3232CPW
IC	8307		TC74VHC125FTS1
Q	8301,8315		DTA124EUA
Q	8302,8307,8312		2SA1586
Q	8303,8304,8306,8308		DTC124EUA
Q	8309,8313		2SC4116
Q	8310,8314		HN1C01FU
Q	8311		2SJ461A
D	8301–8305		1SS355
	MISCELLANEOUS		
X	8301		ASS1168
X	8302		ASS1172
CN	8301		AKP1213
	RESISTORS		
R	8307		RAB4CQ473J
R	8348,8351,8352		RAB4CQ103J
R	8354,8356,8358		RS1/16S122J

Mark	No.	Description	Part No.
R	8357		RS1/16S220J
Other Resistors			RS1/16SS###J

CAPACITORS

C	8301		CKSSYB472K25
C	8302,8303		CCSSCH220J50
C	8305,8312		CCSRCH471J50
C	8306–8311,8322,8323		CKSSYF104Z16
C	8313–8317,8320,8321		CKSSYB104K10
C	8319		DCH1201
C	8324		CKSSYB104K10

[MAIN UCOM BLOCK]

SEMICONDUCTORS

IC	8401		MB91305PMC-G-BND
IC	8402		AGC1018
IC	8403		PST3628UR
IC	8407		PQ200WNA1ZPH
IC	8409		BR24L64F-W
IC	8410,8411		TC74VHC125FTS1
Q	8401		2SJ461A
Q	8402		DTC124EUA
Q	8403,8405		HN1K02FU
D	8401		1SS355
D	8402		SML-311UT
D	8403–8405		1SS301

MISCELLANEOUS

X	8401		CSS1616
CN	8401		AKM1353

RESISTORS

R	8401,8402		ACN1248
R	8408,8467		RAB4CQ101J
R	8454,8455		RS1/16S0R0J
R	8464		RS1/16S4701F
R	8465		RS1/16S1801F
R	8466		RS1/16S1001F
R	8484		RS1/16SS5602F
R	8485		RS1/16SS2002F
Other Resistors			RS1/16SS###J

CAPACITORS

C	8402–8405,8408–8413		CCSSCH470J50
C	8414		CKSSYB102K50
C	8416,8426		CCSSCH120J50
C	8417		CKSSYB472K25
C	8418,8443		CKSSYB103K16
C	8421–8423,8425		CCSSCH470J50
C	8424,8460		DCH1165
C	8427–8434,8436–8442		CKSSYF104Z16
C	8445–8454,8459		CKSSYF104Z16

TANSHI ASSY

SEMICONDUCTORS

IC	9001		BH3544F
Q	8801–8804,9012		HN1A01FU
Q	8805–8808,9019,9020		2SA1586
Q	8809–8811,9013		UMD2N
Q	8812,8814,8821,8823		2SC4116
Q	8813		HN1C01FU
Q	8825–8829,8832		2SC4116
Q	9001		HN1B04FU
Q	9009–9011,9015		2SC4116
Q	9016–9018		2SD2114K
D	9013		1SS301
D	9014–9016		UDZS5R1(B)
TH	9001		TH05-3H103F

MISCELLANEOUS

⚠F	9001–9007		CTF1557
JA	8801–8803		AKP1295
JA	9001		AKB1332
JA	9002		VKN1449
JA	9004		AKN1081
JA	9005		AKB1340
CN	8802,9003		AKM1349
CN	9002		KM200NA5L

RESISTORS

R	8801,8803–8805,8807		RS1/10S151J
R	8802,8806,8808		RS1/10S121J
R	8809,8810		RS1/10S151J
R	8812,8821,8870,8877		RS1/16S680J
R	8839–8841,8866,8894		RS1/16S75R0F
R	8885,8893		RS1/16S680J
R	8898,8915–8917,8922		RS1/16S75R0F
R	9008		RS1/16S4701F
R	9037,9038,9040		RS1/16S75R0F
R	9046–9048		RS1/16S75R0F
Other Resistors			RS1/16SS###J

CAPACITORS

C	8801,8806,8812,8814		DCH1201
C	8802,8815,8819,9005		DCH1165
C	8803,8813,8818,9001		CKSSYF104Z16
C	8804,8805,8810,8811		CCG1205
C	8816,8817,9007,9014		DCH1201
C	8820,8821,9037,9045		CCG1205
C	8825–8836,8857,8858		CKSSYB102K50
C	8837–8839		ACH1454
C	8840–8848,8850,8851		CKSRYB105K10
C	8853–8856,9022,9025		CKSRYB105K10
C	9002,9039,9040		CKSSYB103K16
C	9006		DCH1165
C	9008,9009		CKSSYB104K10
⚠C	9010–9012		CKSSYB471K50
C	9013,9044		CKSSYF104Z16
C	9017		CEHVKW470M6R3
C	9023,9026,9031,9032		CKSRYB102K50
C	9028–9030,9033–9035		CKSRYB105K10
C	9038		CKSSYB473K16
C	9041,9042		CKSRYB105K10
C	9043		CKSRYB224K10
C	9046		CCG1205

SIDE ASSY

SEMICONDUCTORS

Q	9201–9205		2SC4116
D	9201–9207		UDZS9R1(B)
D	9208,9209		UDZS5R6(B)

Mark	No.	Description	Part No.
		MISCELLANEOUS	
	JA	9201	AKB1303
A	JA	9202	AKP1238
	CN	9201	AKN1028
		9203,9204	VNE1949
		RESISTORS	
	R	9245,9246	ACN1260
		Other Resistors	RS1/16SS###J
		CAPACITORS	
	C	9201,9202	ACH1454
	C	9204,9208,9209	CKSSYF104Z16
	C	9213,9214	CKSRYB105K10
B	C	9215,9216	CKSRYB102K50

PC ASSY

		SEMICONDUCTORS	
	IC	9301	TC74VHC08FTS1
	IC	9302	TC7WH123FU
	IC	9303	BR24C21FJ
	Q	9301	UMD2N
	D	9301,9302	1SS301
	D	9306-9309	UDZS5R6(B)
C			
		MISCELLANEOUS	
	CN	9301	CKS3826
	CN	9303	AKP1214
		9302	VNE1949
		RESISTORS	
	R	9330	RAB4CQ101J
		Other Resistors	RS1/16SS###J
		CAPACITORS	
	C	9304,9305	CCSRCH220J50
D	C	9306	CKSRYB105K10
	C	9307,9315,9316	DCH1201
	C	9308,9313,9314,9317	CKSSYF104Z16

AUDIO ASSY

		SEMICONDUCTORS	
	IC	3751	LA4625
	IC	3752	PQ120DNA1ZPH
	IC	3753	NJW1183GK1
	Q	3751,3754,3755,3757	2SA1586
E	Q	3756,3759	2SC4116
	Q	3758,3760	DTC124EUA
	D	3751	1SS355
		MISCELLANEOUS	
	KN	3751,3752	VNF1084
	CN	3751	B3P-VH
		3772,3773	PMB30P100FNI
		3774,3775	VBB30P100FNI
		RESISTORS	
	R	3803	RD1/2MMF2R2J
F		Other Resistors	RS1/16S###J
		CAPACITORS	
	C	3752,3753	CEHAT2R2M50
	C	3754,3805	CFTLA103J50
	C	3755	CEHAT472M25
	C	3757	CEHAT471M25
	C	3758,3760,3796	CKSRYB103K50
	C	3759	CEHAT331M16
	C	3761,3764,3786,3798	CEHAT101M16
	C	3762	CEHAT220M50
	C	3763	CEHATR47M50
	C	3766,3780,3783–3785	CEHAT1R0M50
	C	3767,3770,3781,3782	CFTLA104J50
	C	3769,3815	CKSRYB222K50
	C	3771–3774,3787,3789	CKSRYB224K16
	C	3775,3777,3788,3790	CEHAT100M50
	C	3778	CFTLA334J50
	C	3779	CKSRYB822K50
	C	3791,3799	CEHAT100M50
	C	3792–3795,3806,3807	CFTLA104J50
	C	3797,3808,3812,3814	CEHAT1R0M50
	C	3800,3801	CKSRYB224K16
	C	3811	CFTLA223J50
	C	3813	CFTLA104J50
	C	3816,3817	ACH1456
	C	3818–3821	CCSRCH221J50
	C	3822–3825	CKSRYB682K50
	C	3826–3829	CKSRYF104Z50
⚠	C	3831,3833,3835,3837	CCSRCH101J5
	C	3838,3839	CEHAT4R7M50

SP TERMINAL ASSY

		MISCELLANEOUS	
⚠	F	3901,3902	ATF122
	JA	3901	AKE1061
		RESISTORS	
⚠		All Resistors	RS1/16S###
		CAPACITORS	
	C	3903,3911,3917,3919	CKSRYB682K50
	C	3904,3912,3918,3920	CKSRYF104Z50
⚠	C	3905,3907,3913,3915	CCSRCH221J5
⚠	C	3921–3924	CCSRCH221J5

SIDE KEY ASSY

		MISCELLANEOUS	
⚠	L	9501–9504	QTL101
	S	9501–9507	CSG1155
		RESISTORS	
		All Resistors	RS1/16S###J
		CAPACITORS	
	C	9501	CKSRYF104Z16
	C	9502,9503	CCSRCH101J50

50 LED ASSY

		SEMICONDUCTORS	
	D	9651	TLRV1022
	D	9652	SML512BC4T

Mark	No.	Description	Part No.
RESISTORS			
	All Resistors		RS1/16S###J
CAPACITORS			
C	9651,9652		CKSSYF103Z50

LED IR ASSY

Mark	No.	Description	Part No.
SEMICONDUCTORS			
IC	9702		SBX3050-01
Q	9701		2SA1586
D	9701		1SS302
D	9703		SML-521MDW
MISCELLANEOUS			
CN	9701		AKP1303
RESISTORS			
R	9701,9702,9707,9712		RS1/16S0R0J
R	9713		RS1/16S121J
R	9714		RS1/16S331J
	Other Resistors		RS1/16SS###J
CAPACITORS			
C	9701		CKSSYB102K50
C	9702		CKSSYF104Z16
C	9703		ACG7046
C	9704		CKSSYF103Z50
C	9705		CKSRYF103Z50

50 ADDRESS L ASSY

[50 ADR L LOGIC]

Mark	No.	Description	Part No.
SEMICONDUCTORS			
	IC1601		PEE003B
MISCELLANEOUS			
	L1601		QTL1013
	CN1601		AKM1290
	CN1602		AKM1348
RESISTORS			
	R1601–1605		RS1/16SS1000F
	Other Resistors		RS1/16SS###J
CAPACITORS			
	C1601–1604, 1607		CKSSYF104Z16
	C1605, 1606		CKSSYB102K50
	C1608, 1609		CKSRYB105K6R3
	C1651–1656		ACG1105
	C1657–1662		CKSSYF104Z16
	C1664, 1666, 1668		CCSSCH390J50

[50 ADR L RESONANCE]

Mark	No.	Description	Part No.
SEMICONDUCTORS			
	IC1720T		ND307TD
	Q1710, 1711		QSZ2
	Q1731, 1741, 1751, 1761		HAT3041R
	Q1771, 1781		HAT3041R
	Q1790		2SA1163
	Q1791		RN1901
	D1710, 1737, 1747, 1757		1SS302
	D1731, 1741, 1751, 1761		UDZS15(B)
	D1734, 1744, 1754, 1764		EP05FA20
	D1736, 1738, 1746, 1748		1SS355
	D1756, 1758, 1766, 1768		1SS355
	D1767, 1777, 1787		1SS302
	D1771, 1781		UDZS15(B)
	D1774, 1784		EP05FA20
	D1776, 1778, 1786, 1788		1SS355
MISCELLANEOUS			
	L1730, 1740, 1750, 1760		ATH1199
	L1770, 1780		ATH1199
RESISTORS			
	R1710, 1711		RS1/16SS220J
	Other Resistors		RS1/16S###J
CAPACITORS			
	C1710		CKSYB105K25
	C1711		ACG1098
	C1730, 1740, 1750, 1760		ACG1137
	C1731, 1741, 1751, 1761		ACG1136
	C1770, 1780		ACG1137
	C1771, 1781		ACG1136

50 ADDRESS S ASSY

[50 ADR S LOGIC]

Mark	No.	Description	Part No.
SEMICONDUCTORS			
	IC1801		PEE003B
MISCELLANEOUS			
	L1801		QTL1013
	CN1801		AKM1290
	CN1802		AKM1348
RESISTORS			
	R1801–1805		RS1/16SS1000F
	Other Resistors		RS1/16SS###J
CAPACITORS			
	C1801–1804, 1807		CKSSYF104Z16
	C1805, 1806		CKSSYB102K50
	C1808, 1809		CKSRYB105K6R3
	C1851–1855		ACG1105
	C1857–1861		CKSSYF104Z16
	C1864		CCSSCH390J50
	C1866		CCSSCH101J50

[50 ADR S RESONANCE]

Mark	No.	Description	Part No.
SEMICONDUCTORS			
	IC1920		TND307TD
	Q1910, 1911		QSZ2
	Q1931, 1941, 1951, 1961		HAT3041R
	Q1971		HAT3041R
	Q1990		2SA1163
	Q1991		RN1901
	D1910, 1937, 1947, 1957		1SS302
	D1931, 1941, 1951, 1961		UDZS15(B)
	D1934, 1944, 1954, 1964		EP05FA20
	D1936, 1938, 1946, 19481		SS355
	D1956, 1958, 1966, 1968		1SS355

Mark	No.	Description	Part No.
	D1967, 1977		1SS302
	D1971		UDZS15(B)
	D1974		EP05FA20
A	D1976, 1978		1SS355
	MISCELLANEOUS		
	L1930, 1940, 1950, 1960		ATH1199
	L1970		ATH1199
	RESISTORS		
	R1910, 1911		RS1/16SS220J
	Other Resistors		RS1/16S###J
	CAPACITORS		
	C1910		CKSYB105K25
B	C1911		ACG1098
	C1930, 1940, 1950, 1960		ACG1137
	C1931, 1941, 1951, 1961		ACG1136
	C1970		ACG1137
	C1971		ACG1136

50 SCAN A ASSY

	SEMICONDUCTORS		
	IC2801–2806		SN755870KPZT-P
	D2801		CRH01
C	D2802–2807, 2809, 2811		1SS302
	D2810		1SS355
	MISCELLANEOUS		
	CN2801		AKP1261
	CN2802		AKM1281
	CN2803		AKP1306
	RESISTORS		
	R2805, 2810, 2813, 2816		RAB4C221J
	R2819, 2822		RAB4C221J
	Other Resistors		RS1/16S###J
D	**CAPACITORS**		
	C2801, 2802, 2811, 2812		ACG1088
	C2803, 2813, 2823, 2833		CKSRYB105K6R3
	C2805–2807, 2815–2817		CCSRCH220J50
	C2808–2810, 2818–2820		CCSRCH151J50
	C2821, 2822, 2831, 2832		ACG1088
	C2825–2827, 2835–2837		CCSRCH220J50
	C2828–2830, 2838–2840		CCSRCH151J50
	C2841, 2842, 2851, 2852		ACG1088
	C2843, 2853		CKSRYB105K6R3
	C2845–2847, 2855–2857		CCSRCH220J50
E	C2848–2850, 2858–2860		CCSRCH151J50

50 SCAN B ASSY

	SEMICONDUCTORS		
	IC2901–2906		SN755870KPZT-P
	IC2907		TC7SH08FUS1
	D2902–2908		1SS302
	D2909		1SS355
F	**MISCELLANEOUS**		
	CN2901		AKM1281
	CN2902		AKP1306

Mark	No.	Description	Part No.
	RESISTORS		
	R2903, 2908, 2911, 2914		RAB4C221J
	R2917, 2920		RAB4C221J
	Other Resistors		RS1/16S###J
	CAPACITORS		
	C2901, 2902, 2911, 2912		ACG1088
	C2903, 2913, 2923, 2933		CKSRYB105K6R3
	C2905–2907, 2915–2917		CCSRCH220J50
	C2908–2910, 2918–2920		CCSRCH151J50
	C2921, 2922, 2931, 2932		ACG1088
	C2925–2927, 2935–2937		CCSRCH220J50
	C2928–2930, 2938–2940		CCSRCH151J50
	C2941, 2942, 2951, 2952		ACG1088
	C2943, 2953, 2961		CKSRYB105K6R3
	C2945–2947, 2955–2957		CCSRCH220J50
	C2948–2950, 2958–2960		CCSRCH151J50

POWER SUPPLY UNIT

POWER SUPPLY UNIT has no service part.

A

B

C

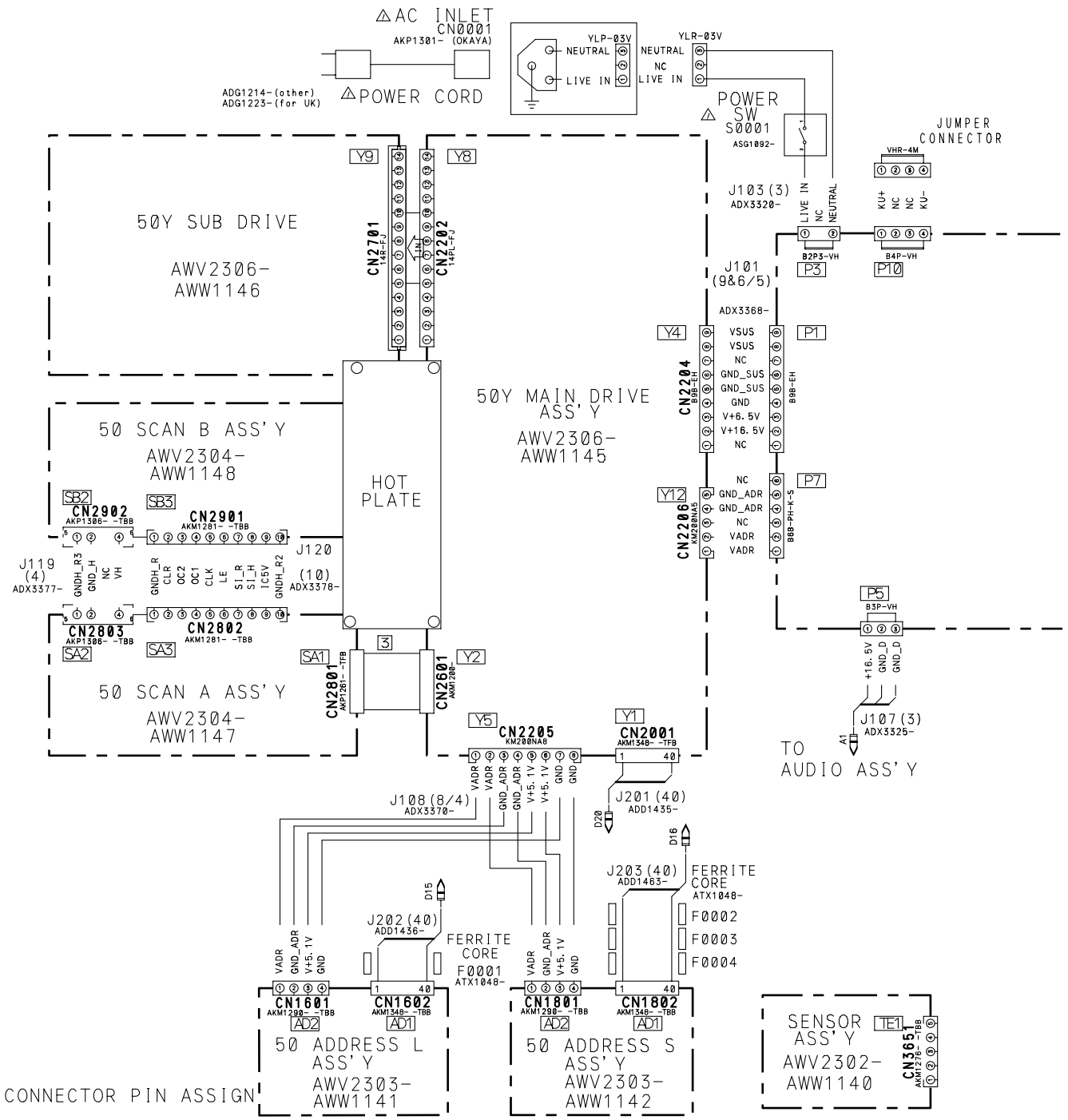
D

E

F

4. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

4.1 OVERALL CONNECTION DIAGRAM (1/2)



CONNECTOR PIN ASSIGN

CN3501 D15 → CN1602 AD1
CN3502 D16 → CN1802 AD1
CN3503 D17 → CN1802 AD1
CN3504 D18 → CN1602 AD1

1→40. NC	21→20. CP
2→39. ADR_PD	22→19. NC
3→38. PSIZE	23→18. GND_LVDS
4→37. GND	24→17. NC
5→36. V+8V	25→16. CLKN
6→35. V+8V	26→15. CLKP
7→34. GND	27→14. NC
8→33. GND_LVDS	28→13. GND_LVDS
9→32. NC	29→12. NC
10→31. AN	30→11. DN
11→30. AP	31→10. DP
12→29. NC	32→ 9. NC
13→28. GND_LVDS	33→ 8. GND_LVDS
14→27. NC	34→ 7. GND
15→26. BN	35→ 6. V+3.3V
16→25. BP	36→ 5. V+3.3V
17→24. NC	37→ 4. GND
18→23. GND_LVDS	38→ 3. DIV1
19→22. NC	39→ 2. DIV0
20→21. CN	40→ 1. GND

CN3505 D19 → CN1001 X1

1→18. PSW2	
2→17. XSUS_PD	
3→16. XDD_PD	
4→15. XDRV_PD	
5→14. GND	
6→13. SUS_MUTE	
7→12. XSUS_MSK	
8→11. GND	
9→10. XNR_D	
10→ 9. GND	
11→ 8. XSUS_G	
12→ 7. GND	
13→ 6. XSUS_D	
14→ 5. GND	
15→ 4. XSUS_U	
16→ 3. GND	
17→ 2. XSUS_B	
18→ 1. XCN_PD	

CN3506 D20 → CN2001 Y1

1→40. YCN_PD	21→20. GND
2→39. SCN5V_PD	22→19. YSUS_MSK
3→38. SI_L	23→18. YNRST
4→37. SI_H	24→17. YRsv2
5→36. GND	25→16. GND
6→35. CLR	26→15. YNOFS
7→34. CLK1	27→14. YRsv3
8→33. GND	28→13. YSOFT-D
9→32. LE	29→12. GND
10→31. OC2	30→11. VOFS_ADJ
11→30. OC1	31→10. VYPRST_ADJ
12→29. GND	32→ 9. GND
13→28. YSUS_B	33→ 8. GND
14→27. YSUS_U	34→ 7. GND
15→26. GND	35→ 6. GND
16→25. YSUS_D	36→ 5. YDD_PD
17→24. YSUS_G	37→ 4. YSUS_PD
18→23. GND	38→ 3. SCAN_PD
19→22. YPR-U	39→ 2. YDRV_PD
20→21. SUS_MUTE	40→ 1. PSW2

CN2601 Y2 → CN2801 SA1

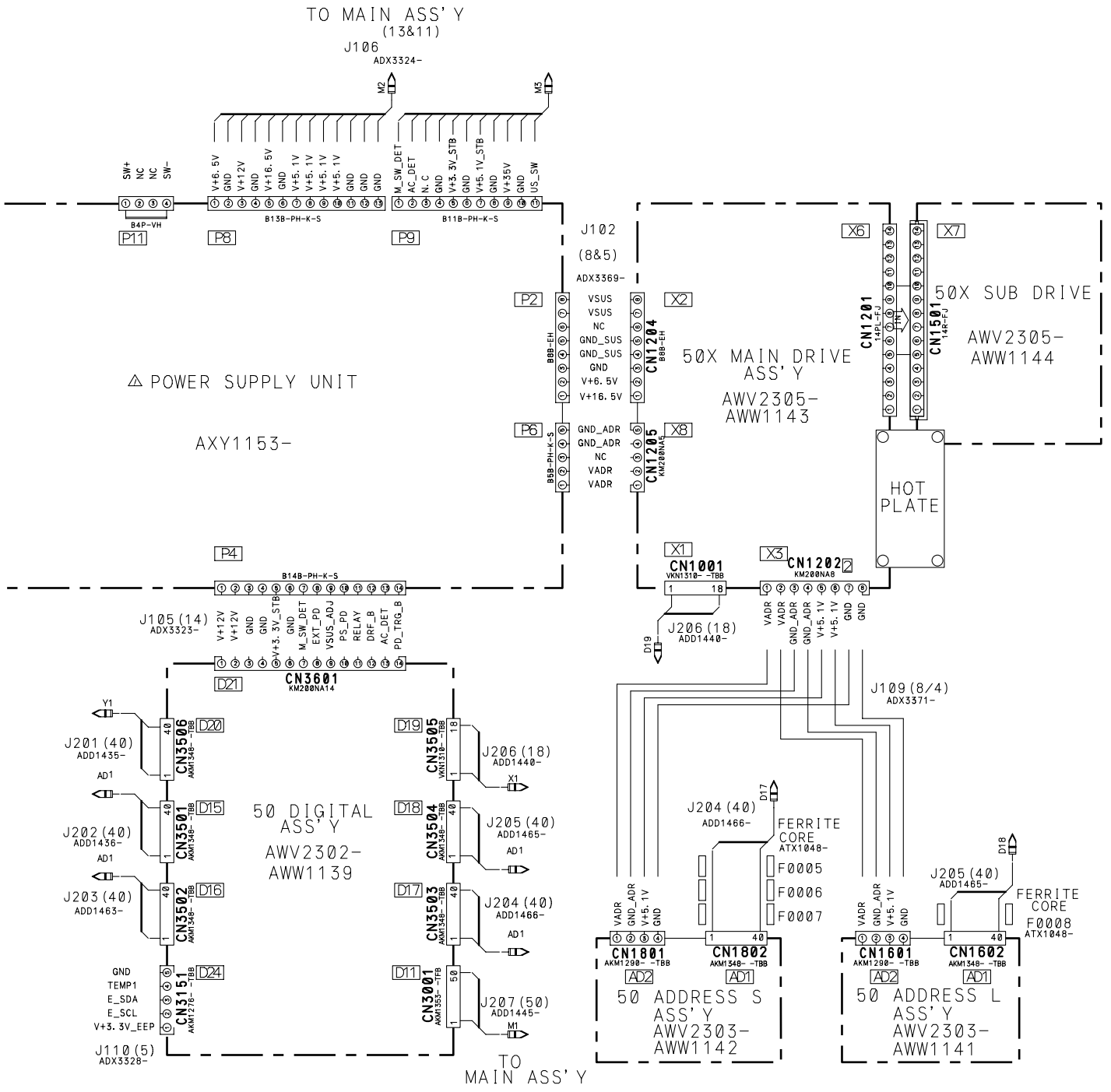
1. VH
2. VH
3. NC
4. NC
5. GNDH
6. SI_L
7. SI_H
8. CLR
9. OC2
10. OC1
11. CLK
12. LE
13. GNDH
14. GNDH_R
15. IC5V

CN2202 Y8 → CN2701 Y9

1. MSK-G
2. MSK-S
3. NC
4. GNDSUS
5. SUS_G
6. GND_CN
7. NC
8. SUSOUT
9. SUS_B
10. SUSOUT
11. SUSOUT+15V
12. NC
13. VSUS
14. VSUS

CN1201 X6 → CN1501 X7

1. MSK
2. PSUS
3. NC
4. GNDSUS
5. SUS_G
6. GND_CN
7. NC
8. SUSOUT
9. SUS_B
10. SUSOUT
11. SUSOUT+15V
12. NC
13. VSUS
14. VSUS

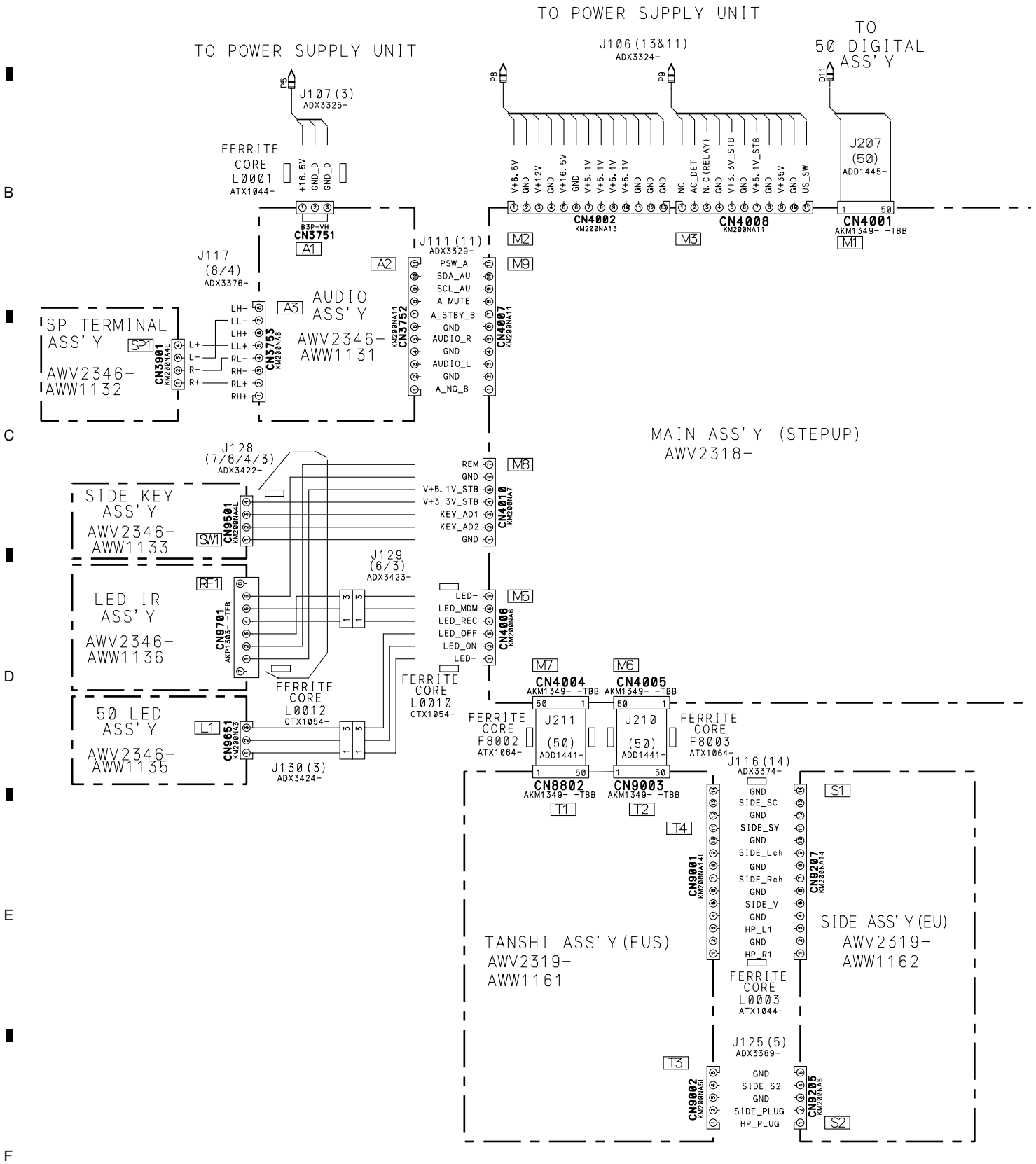


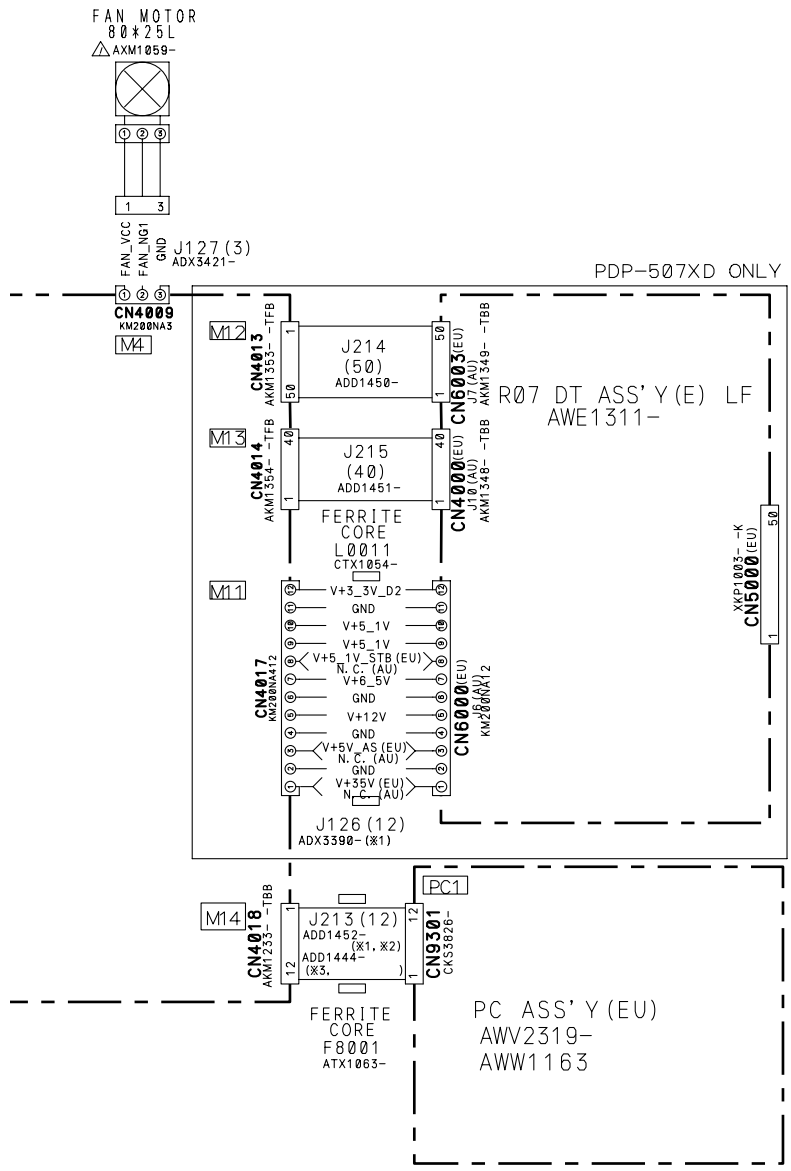
CN3001 D11 → CN4001 M1

1. GND	26. VIDEO_G6
2. V+3.3V_UCOM	27. VIDEO_G5
3. INP_MUTE	28. VIDEO_G4
4. THEATER	29. VIDEO_G3
5. VD	30. VIDEO_G2
6. HD	31. VIDEO_G1
7. DE	32. VIDEO_G0
8. GND	33. GND
9. CLK	34. VIDEO_B9
10. GND	35. VIDEO_B8
11. GND	36. VIDEO_B7
12. VIDEO_R9	37. VIDEO_B6
13. VIDEO_R8	38. VIDEO_B5
14. VIDEO_R7	39. VIDEO_B4
15. VIDEO_R6	40. VIDEO_B3
16. VIDEO_R5	41. VIDEO_B2
17. VIDEO_R4	42. VIDEO_B1
18. VIDEO_R3	43. VIDEO_B0
19. VIDEO_R2	44. GND
20. VIDEO_R1	45. RESERVE(NC)
21. VIDEO_R0	46. AC_OFF(NC)
22. GND	47. TXD_MD
23. VIDEO_G9	48. RXD_MD
24. VIDEO_G8	49. REQ_MD
25. VIDEO_G7	50. MODE

- When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- The encircled numbers denote measuring point in the schematic diagram. Waveforms, refer to service manual (ARP3397).

4.2 OVERALL CONNECTION DIAGRAM (2/2)





CONNECTOR PIN ASSIGN

CN4004 M7 → CN8802 T1

1→50. INPUT2_Rch	30→21. SLOW_SW3 INPUT2_S2(GE/AU/CN)
2→49. GND	31→20. SLOW_SW2(EU) INPUT3_SPLUG(GE/AU/CN)
3→48. INPUT2_Lch	32→19. SLOW_SW1(EU) INPUT3_S2(GE/AU/CN)
4→47. GND	33→18. LINK_IO2(EU) INPUT1_SPLUG(GE/AU/CN)
5→46. INPUT1_Rch	34→17. GND
6→45. GND	35→16. LINK_IO3(EU) INPUT1_S2(GE/AU/CN)
7→44. INPUT1_Lch	36→15. GND
8→43. GND	37→14. RAPID_SW1(EU) INPUT1_PULG(GE/AU/CN)
9→42. SCART_OUT_V(EU) MON_OUT_V(GE/AU/CN)	38→13. RAPID_SW3(EU) INPUT2_PLUG(GE/AU/CN)
10→41. GND	39→12. GND
11→40. AIR_OUT_V(EU) INPUR2_SY(GE/AU/CN)	40→11. INPUT1_R(EU) INPUT2_Pr(GE/AU/CN)
12→39. GND	41→10. GND
13→38. INPUT1_V(EU) INPUT3_SY(GE/AU/CN)	42→ 9. INPUT1_B(EU) INPUT2_Pb(GE/AU/CN)
14→37. GND	43→ 8. GND
15→36. INPUT2_SC	44→ 7. INPUT1_G(EU) INPUT2_Y(GE/AU/CN)
16→35. GND	45→ 6. GND
17→34. INPUT2_V	46→ 5. INPUT3_R(EU) INPUT1_Pr(GE/AU/CN)
18→33. GND	47→ 4. GND
19→32. INPUT3_SC	48→ 3. INPUT3_B(EU) INPUT1_Pb(GE/AU/CN)
20→31. GND	49→ 2. GND
21→30. INPUT3_V	50→ 1. INPUT3_G(EU) INPUT1_Y(GE/AU/CN)
22→29. GND	
23→28. INPUT2_Pr(EU) INPUT1_SC(GE/AU/CN)	
24→27. GND	
25→26. INPUT2_Pb(EU) INPUT1_SY(GE/AU/CN)	
26→25. GND	
27→24. INPUT2_Y(EU) INPUT1_V(GE/AU/CN)	
28→23. GND	
29→22. IN2_CompY_PLUG(EU) INPUT2_SPLUG(GE/AU/CN)	

CN4005 M6 → CN9003 T2

1→50. V+5V_A	26→25. GND
2→49. HP_PLUG	27→24. HP_L
3→48. AC_HP_MUTE	28→23. V+3_3V_STB
4→47. AC_AM_MUTE	29→22. SCART_OUT_Rch(EU) MON_OUT_Rch(GE/AU/CN)
5→46. AC_SC1_MUTE(EU) MON_MUTE(GE/AU/CN)	30→21. GND
6→45. AC_SC2_MUTE(EU) GND(GE/AU/CN)	31→20. SCART_OUT_Lch(EU) MON_OUT_Lch(GE/AU/CN)
7→44. AC_SC3_MUTE(EU) GND(GE/AU/CN)	32→19. GND
8→43. TEMP2	33→18. AIR_Rch(EU) GND(GE/AU/CN)
9→42. SR_OUT	34→17. GND
10→41. TXD_SR	35→16. AIR_Lch(EU) GND(GE/AU/CN)
11→40. RXD_SR	36→15. GND
12→39. GND	37→14. SIDE_Rch
13→38. AUDIO_OUT_Rch(EU) GND(GE/AU/CN)	38→13. GND
14→37. GND	39→12. SIDE_Lch
15→36. AUDIO_OUT_Lch(EU) GND(GE/AU/CN)	40→11. GND
16→35. SIDE_SC	41→10. PC_Rch
17→34. GND	42→ 9. GND
18→33. SIDE_S2	43→ 8. PC_Lch
19→32. GND	44→ 7. GND
20→31. SIDE_SY	45→ 6. INPUT3_Rch
21→30. GND	46→ 5. GND
22→29. SIDE_V	47→ 4. INPUT3_Lch
23→28. SIDE_PLUG	48→ 3. GND
24→27. GND	49→ 2. V+9V_AS
25→26. HP_R	50→ 1. V+9V_A

CN4013 M12 → CN6003(EU)/J7(AU)

01. GND	26. GND
02. TXD_DT	27. CB3_DT
03. RXD_DT	28. CB2_DT
04. GND	29. GND
05. DT_FNC	30. CB1_DT
06. GND	31. CB0_DT
07. CLK_DT	32. GND
08. GND	33. CR7_DT
09. Y7_DT	34. CR6_DT
10. Y6_DT	35. GND
11. GND	36. CR5_DT
12. Y5_DT	37. CR4_DT
13. Y4_DT	38. GND
14. GND	39. CR3_DT
15. Y3_DT	40. CR2_DT
16. Y2_DT	41. GND
17. GND	42. CR1_DT
18. Y1_DT	43. CR0_DT
19. Y0_DT	44. GND
20. GND	45. DE_DT
21. CB7_DT	46. GND
22. CB6_DT	47. VD_DT
23. GND	48. GND
24. CB5_DT	49. HD_DT
25. CB4_DT	50. GND

CN4014 M13 → CN4000(EU)/J10(AU)

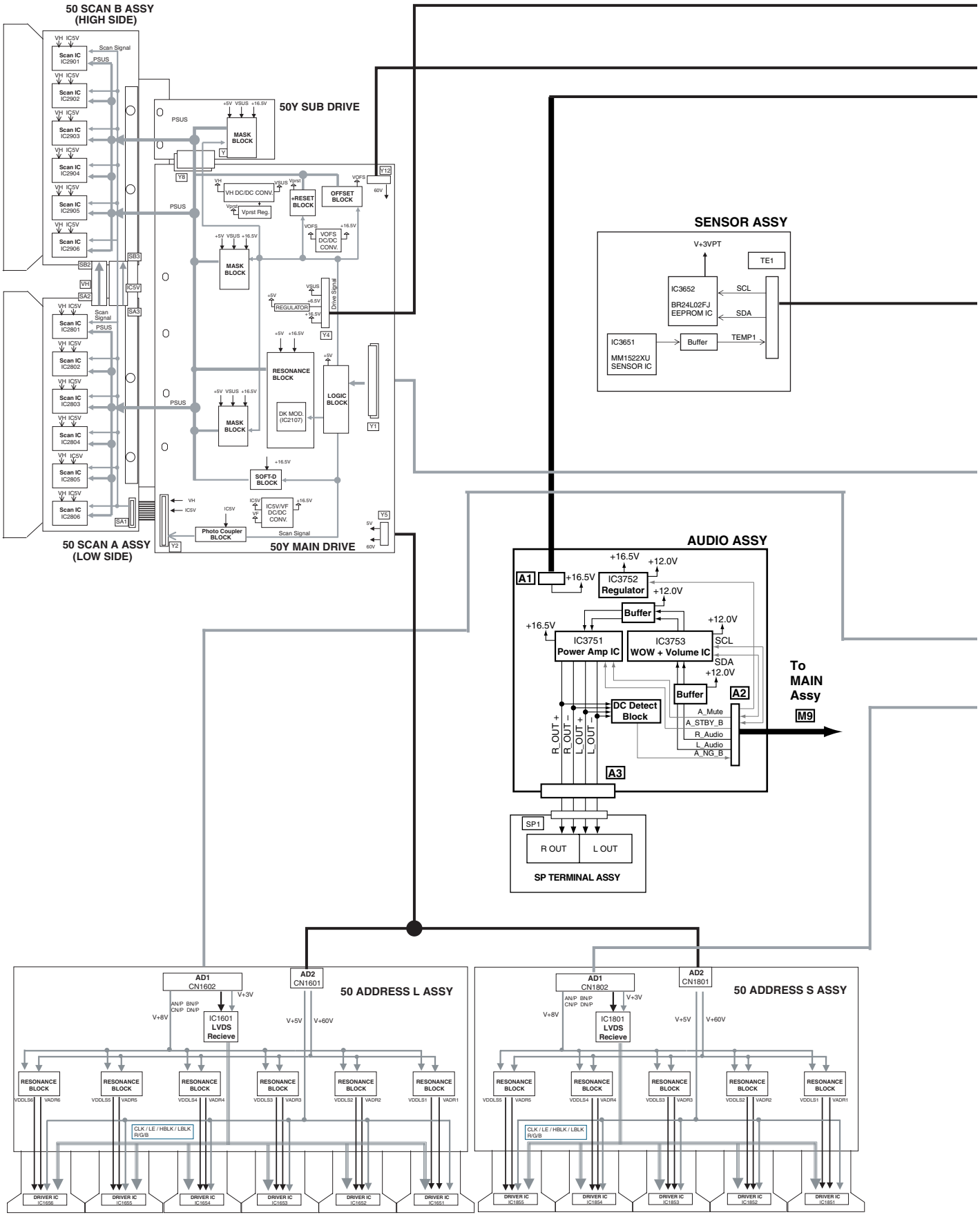
01→40. GND	21→20. GND
02→39. DT_DET	22→19. GND
03→38. RST_DT	23→18. DT_MON_Y
04→37. POW_SET	24→17. GND
05→36. ANT_POW_EU	25→16. GND
06→35. GND	26→15. DT_MON_C
07→34. GND	27→14. GND
08→33. NC	28→13. OPT_L
09→32. GND	29→12. GND
10→31. GND	30→11. OPT_R
11→30. NC	31→10. GND
12→29. GND	32→09. DT_SP_L
13→28. GND	33→08. GND
14→27. NC	34→07. ST_SP_R
15→26. GND	35→06. GND
16→25. GND	36→05. GND
17→24. GND	37→04. GND
18→23. GND	38→03. GND
19→22. GND	39→02. DT_MON_V
20→21. GND	40→01. GND

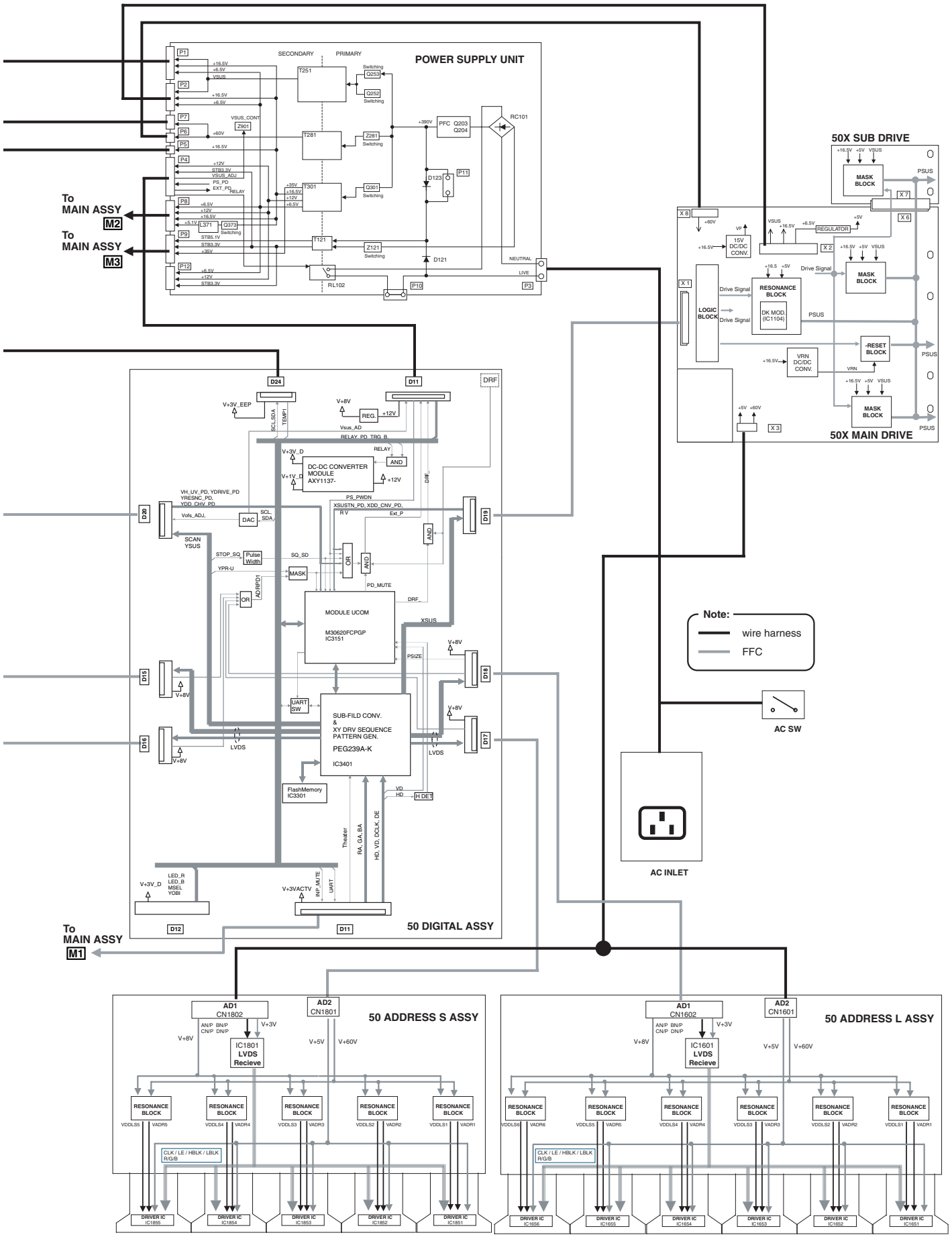
CN4018 M14 → CN9301 PC1

1→12. PC_R	
2→11. GND	
3→10. PC_B	
4→ 9. GND	
5→ 8. PC_G	
6→ 7. V+9V_A	
7→ 6. PC_H	
8→ 5. PC_V	
9→ 4. V+3.3V_UCOM	
10→ 3. DSUB_DET	
11→ 2. WE_ROM	
12→ 1. V+5V_A	

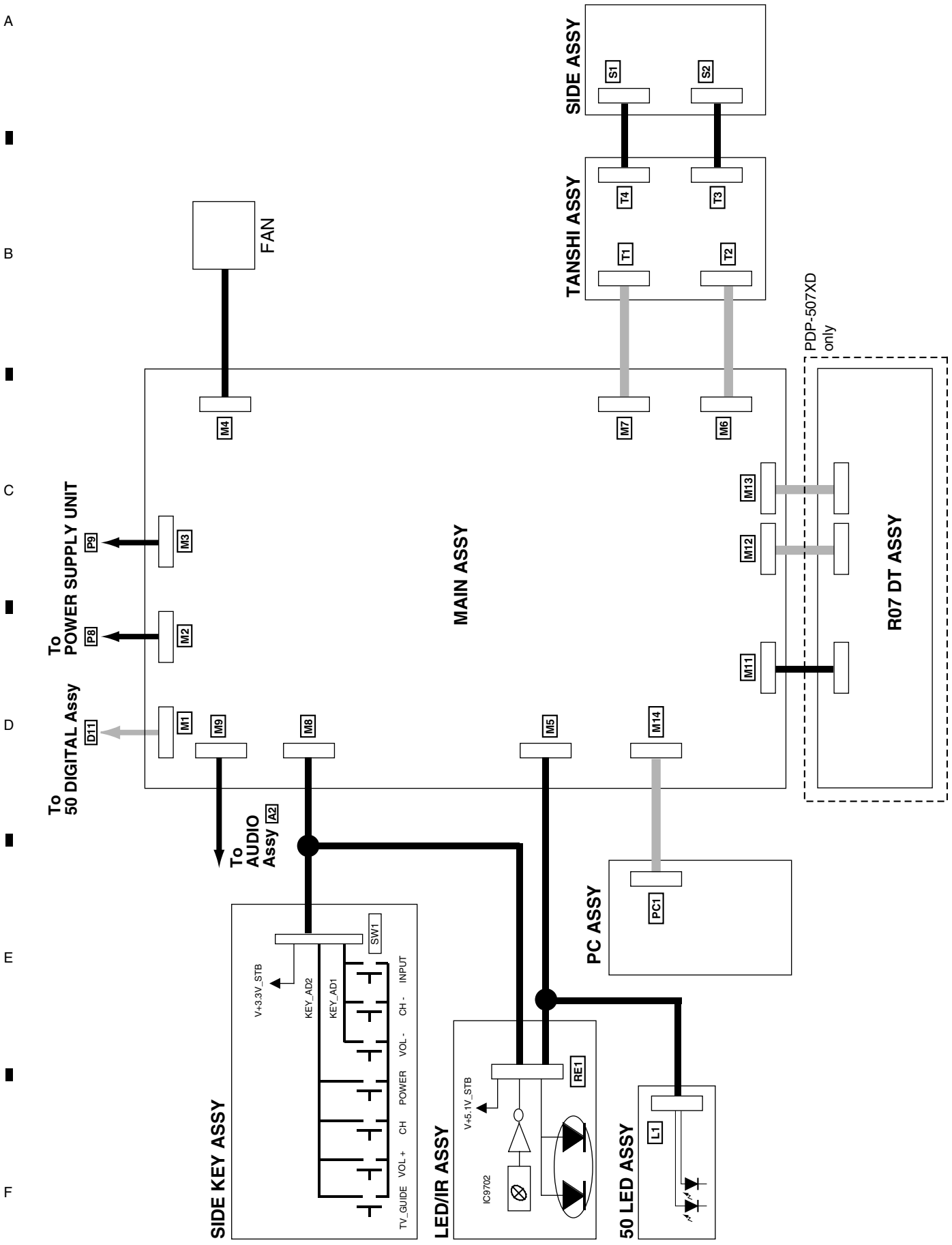
The ⚠ mark found on some component parts indicates the importance of the safety factor of the part.
Therefore, when replacing, be sure to use parts of identical designation.

4.3 OVERALL BLOCK DIAGRAM (1/2)



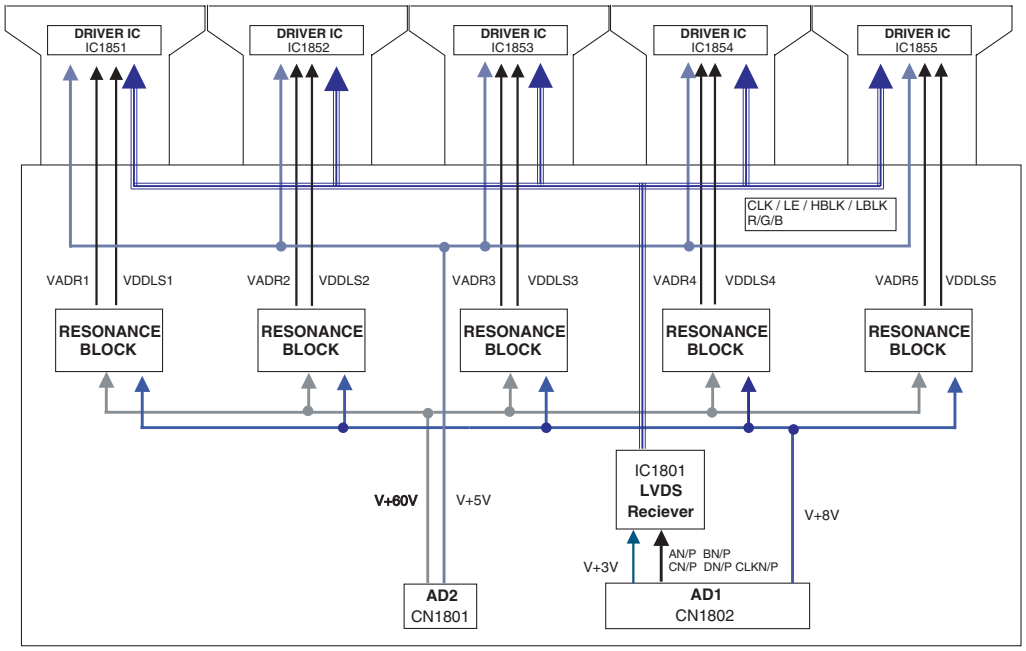

POWER SUPPLY UNIT
SECONDARY
PRIMARY
To MAIN ASSY M2
To MAIN ASSY M3
50X SUB DRIVE
50X MAIN DRIVE
MASK BLOCK
RESONANCE BLOCK
LOGIC BLOCK
15V DC/DC CONV.
REGULATOR
-RESET BLOCK
VRN DC/DC CONV.
DK MOD. (IC1104)
Drive Signal
PSUS
50 DIGITAL ASSY
DC-DC CONVERTER MODULE AXY1137-
MODULE UCOM
M30620FCPGP
IC3151
SUB-FILD CONV. & XY DRV SEQUENCE PATTERN GEN.
PEG239A-K
IC3401
FlashMemory IC3301
LVDS
To MAIN ASSY M1
AC SW
AC INLET
Note:
wire harness
FFC
50 ADDRESS S ASSY
50 ADDRESS L ASSY
AD1 CN1802
AD2 CN1801
AD1 CN1602
AD2 CN1601
IC1801 LVDS Recieve
IC1601 LVDS Recieve
RESONANCE BLOCK
DRIVER IC
CLK / LE / HBLK / LBLK R/G/B

4.4 OVERALL BLOCK DIAGRAM (2/2)

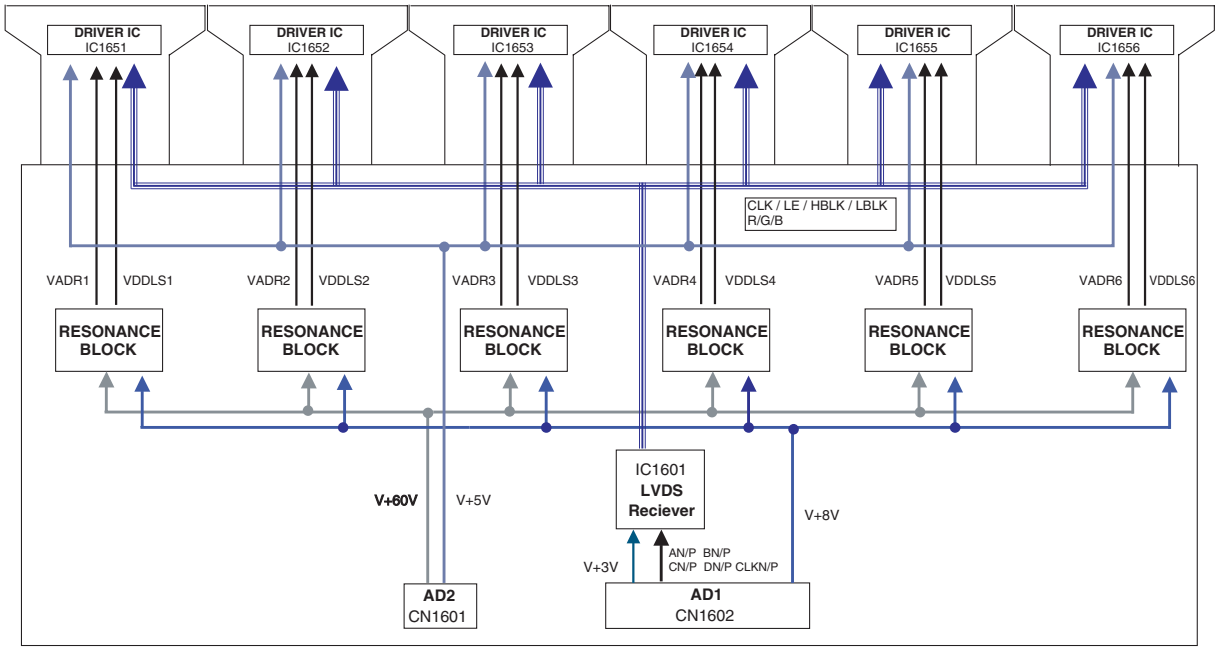


4.5 50 ADDRESS S and L ASSYS

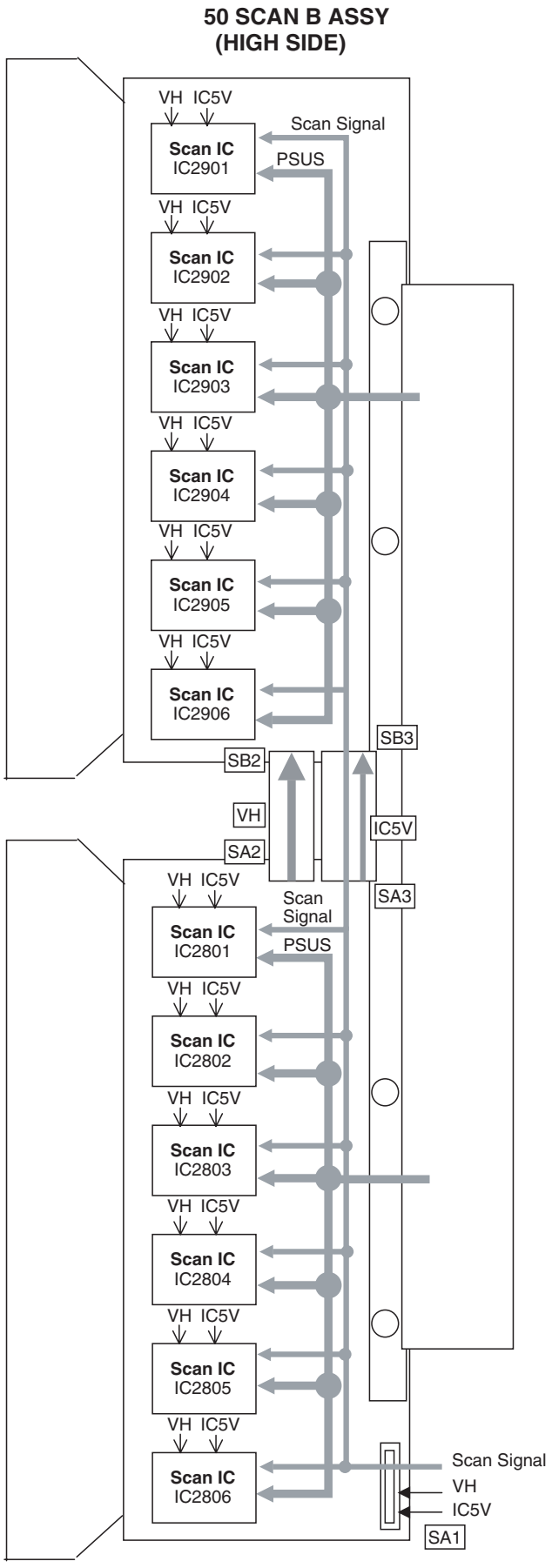
50 ADDRESS S ASS'Y



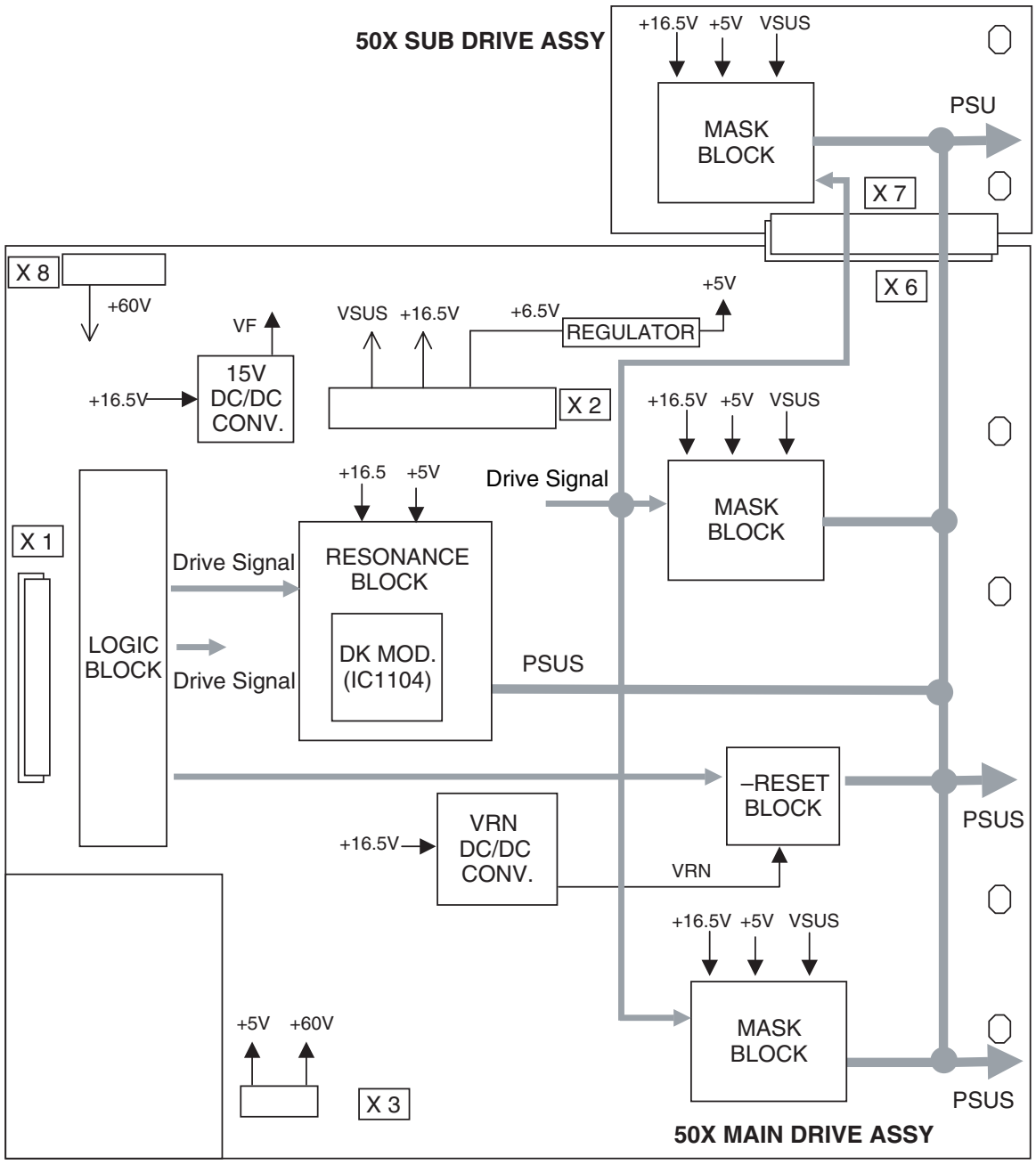
50 ADDRESS L ASS'Y



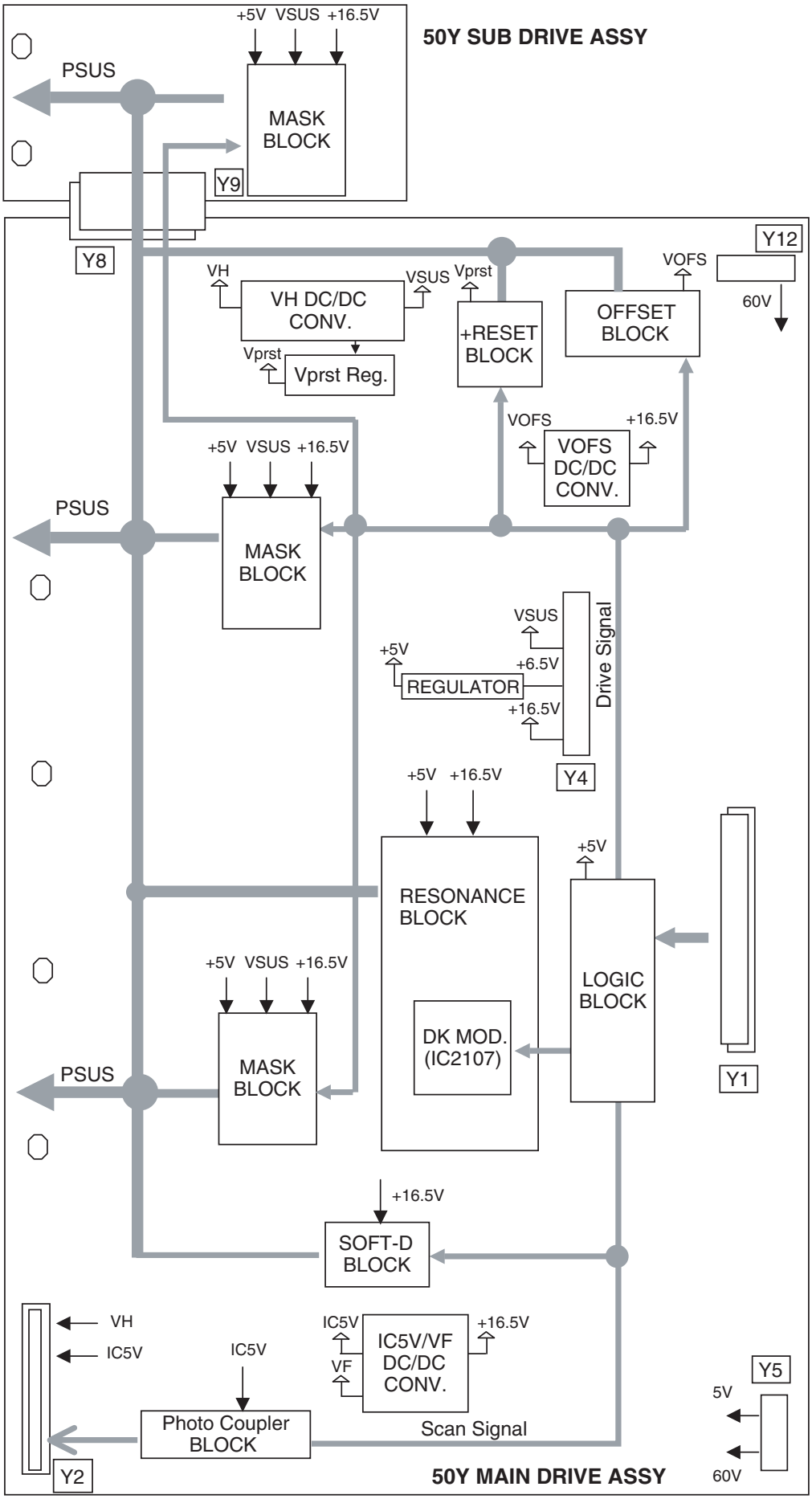
4.6 50 SCAN A and B ASSYS



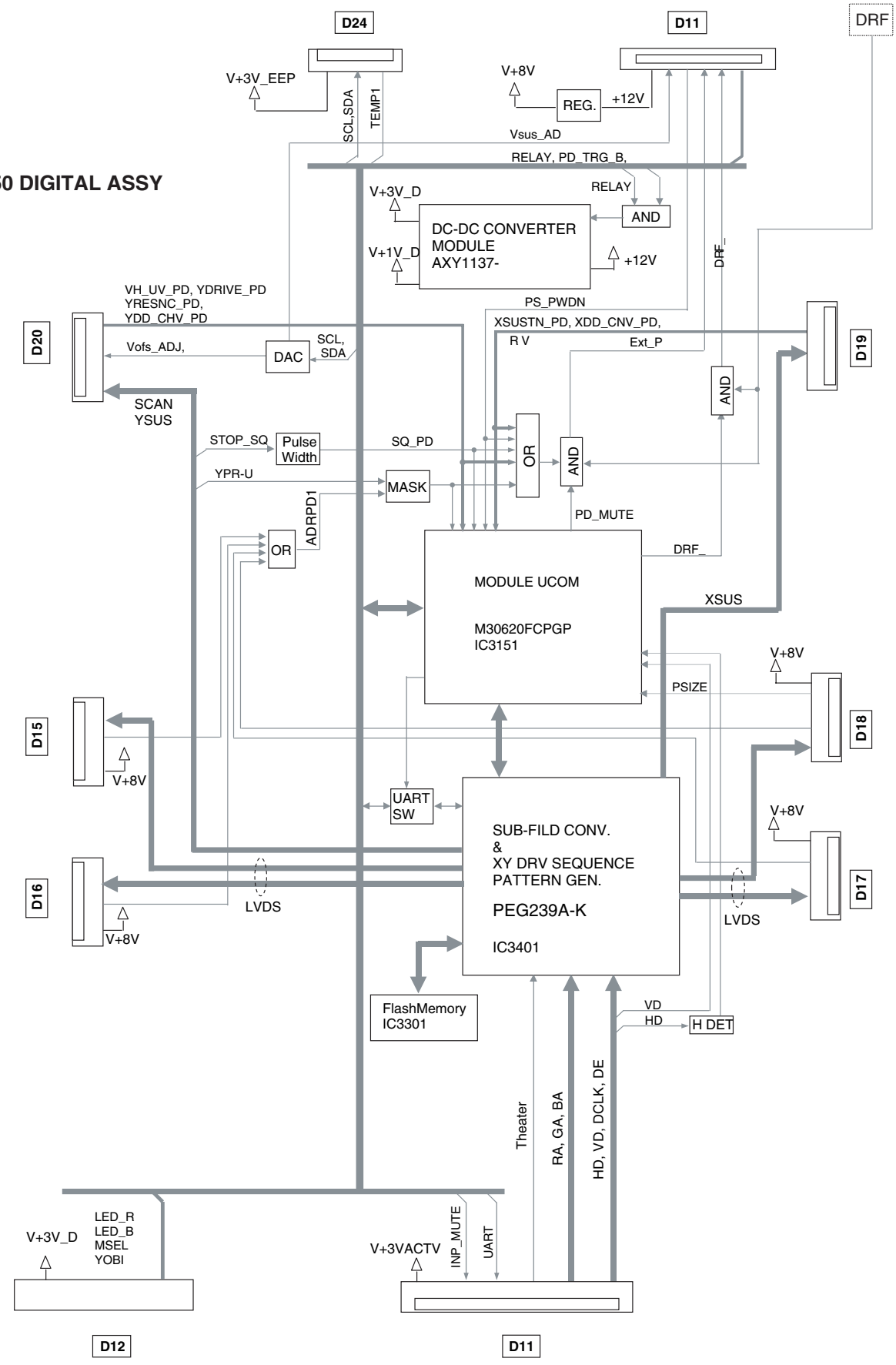
4.7 50X MAIN DRIVE and 50X SUB DRIVE ASSYS



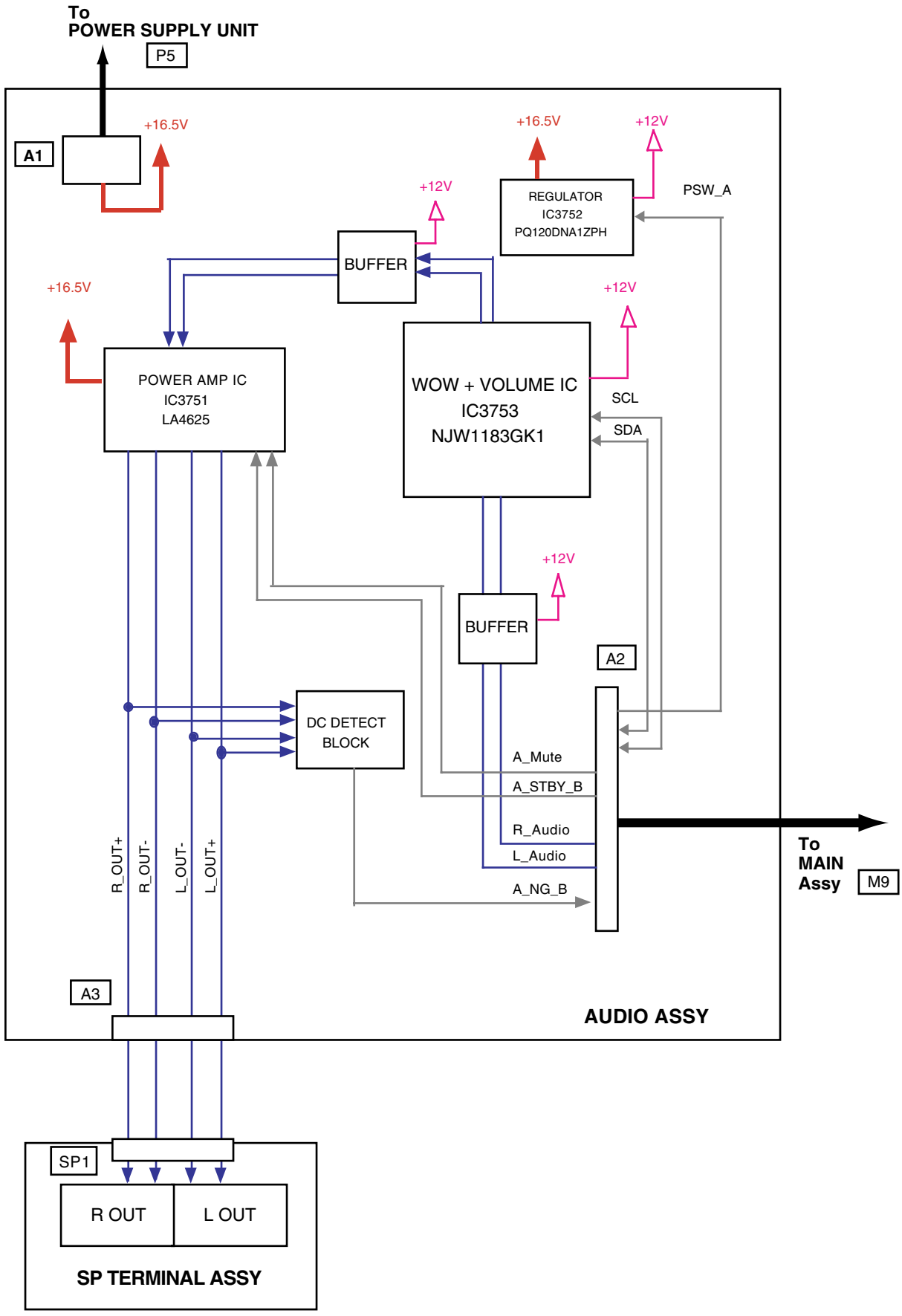
4.8 50Y MAIN DRIVE and 50Y SUB DRIVE ASSYS



4.9 50 DIGITAL ASSY



4.10 AUDIO ASSY



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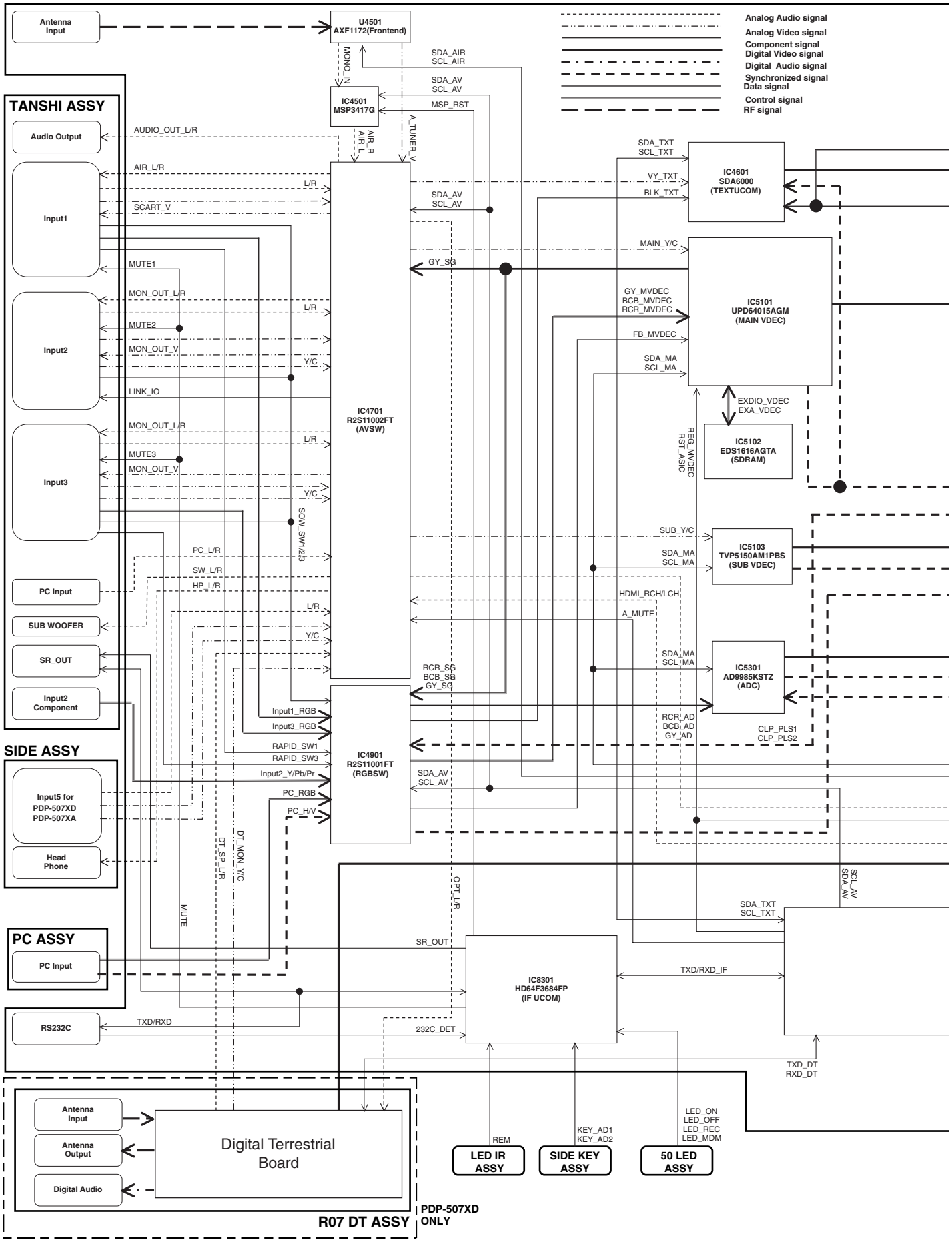
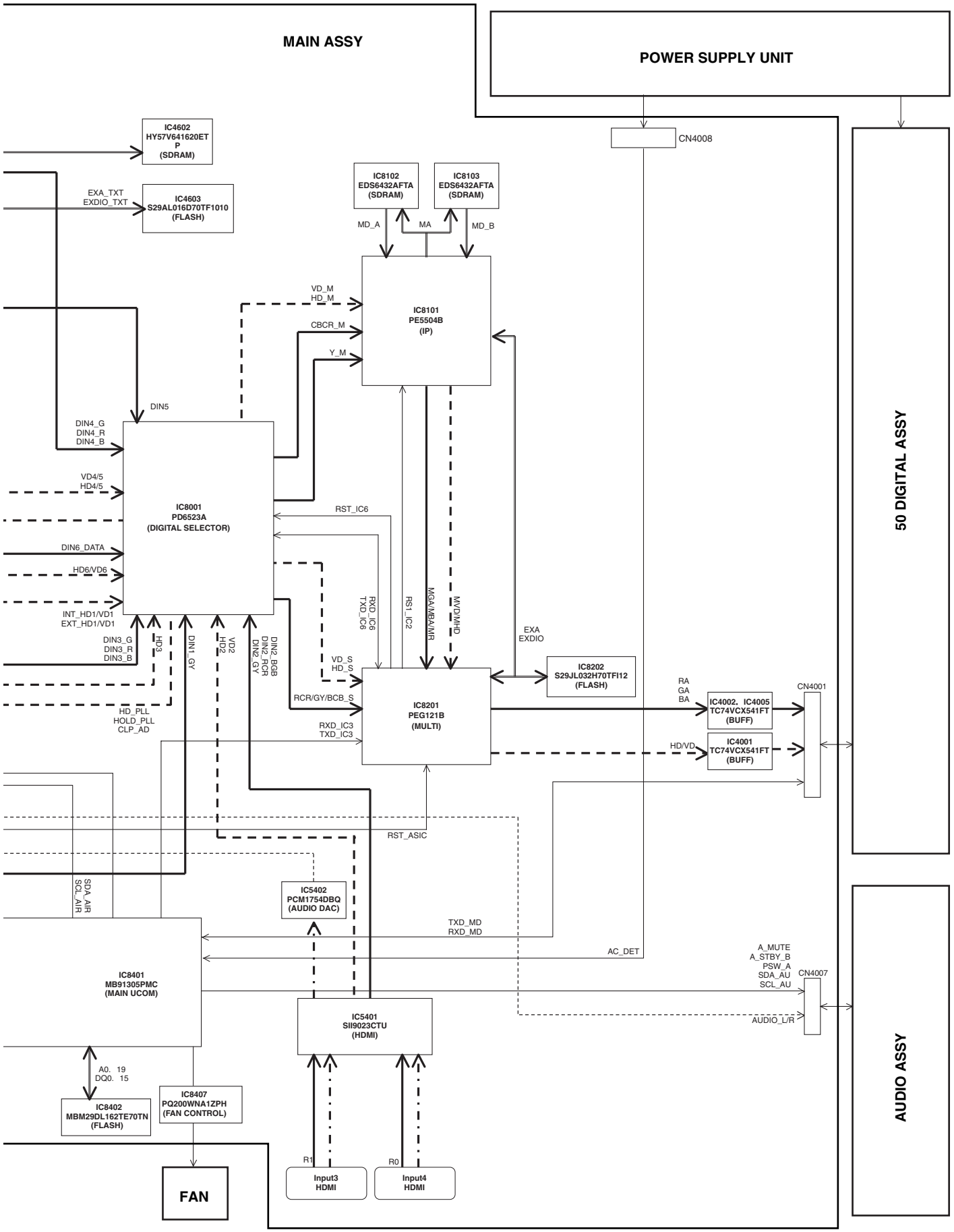
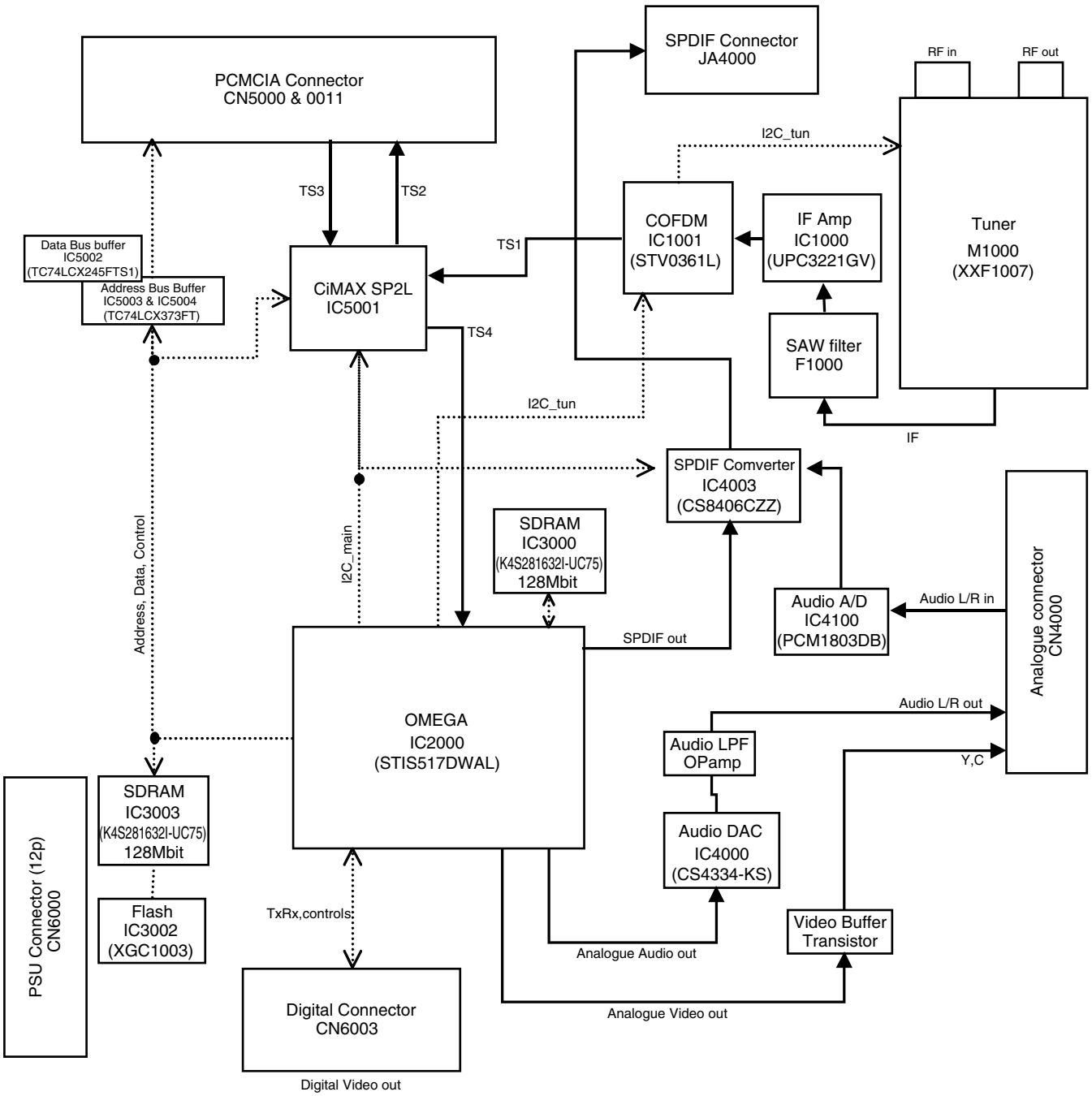
F

4.11 SIGNAL BLOCK DIAGRAM

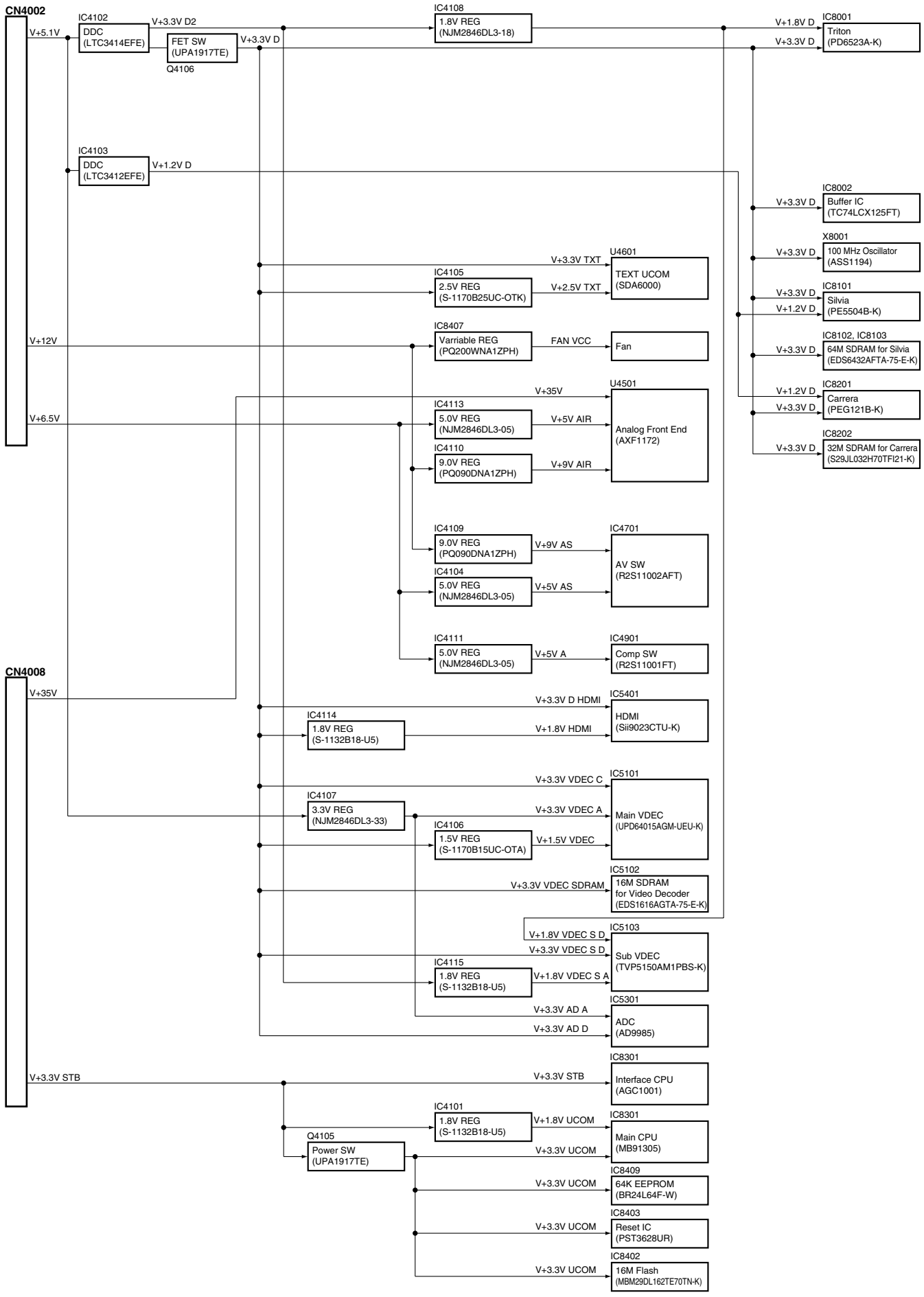



MAIN ASSY
POWER SUPPLY UNIT
CN4008
50 DIGITAL ASSY
IC4602
HY57V641620ET
P
(SDRAM)
EXA_TXT
EXDIO_TXT
IC4603
S29AL016D70TF1010
(FLASH)
IC8102
EDS6432AFTA
(SDRAM)
IC8103
EDS6432AFTA
(SDRAM)
MD_A
MA
MD_B
VD_M
HD_M
CBCR_M
Y_M
IC8101
PE5504B
(IP)
DIN5
DIN4_G
DIN4_R
DIN4_B
VD4/5
HD4/5
IC8001
PD6523A
(DIGITAL SELECTOR)
RST_IC6
DIN6_DATA
HD6/VD6
INT_HD1/VD1
EXT_HD1/VD1
DIN3_G
DIN3_R
DIN3_B
HD3
DIN1_GY
VD2
HD2
DIN2_BGB
DIN2_RCR
DIN2_GY
RXD_IC6
TXD_IC6
RS1_IC2
MGA/MBA/MR
MVD/MHD
EXA
EXDIO
IC8202
S29JL032H70TFI12
(FLASH)
VD_S
HD_S
RCR/GY/BCB_S
IC8201
PEG121B
(MULTI)
RXD_IC3
TXD_IC3
HD_PLL
HOLD_PLL
CLP_AD
RA
GA
BA
IC4002. IC4005
TC74VCX541FT
(BUFF)
CN4001
HD/VD
IC4001
TC74VCX541FT
(BUFF)
RST_ASIC
SDA_AIR
SCL_AIR
IC5402
PCM1754DBQ
(AUDIO DAC)
TXD_MD
RXD_MD
AC_DET
A_MUTE
A_STBY_B
PSW_A
SDA_AU
SCL_AU
CN4007
AUDIO_L/R
IC8401
MB91305PMC
(MAIN UCOM)
IC5401
SII9023CTU
(HDMI)
A0. 19
DQ0. 15
IC8402
MBM29DL162TE70TN
(FLASH)
IC8407
PQ200WNA1ZPH
(FAN CONTROL)
R1
R0
Input3
HDMI
Input4
HDMI
FAN
AUDIO ASSY

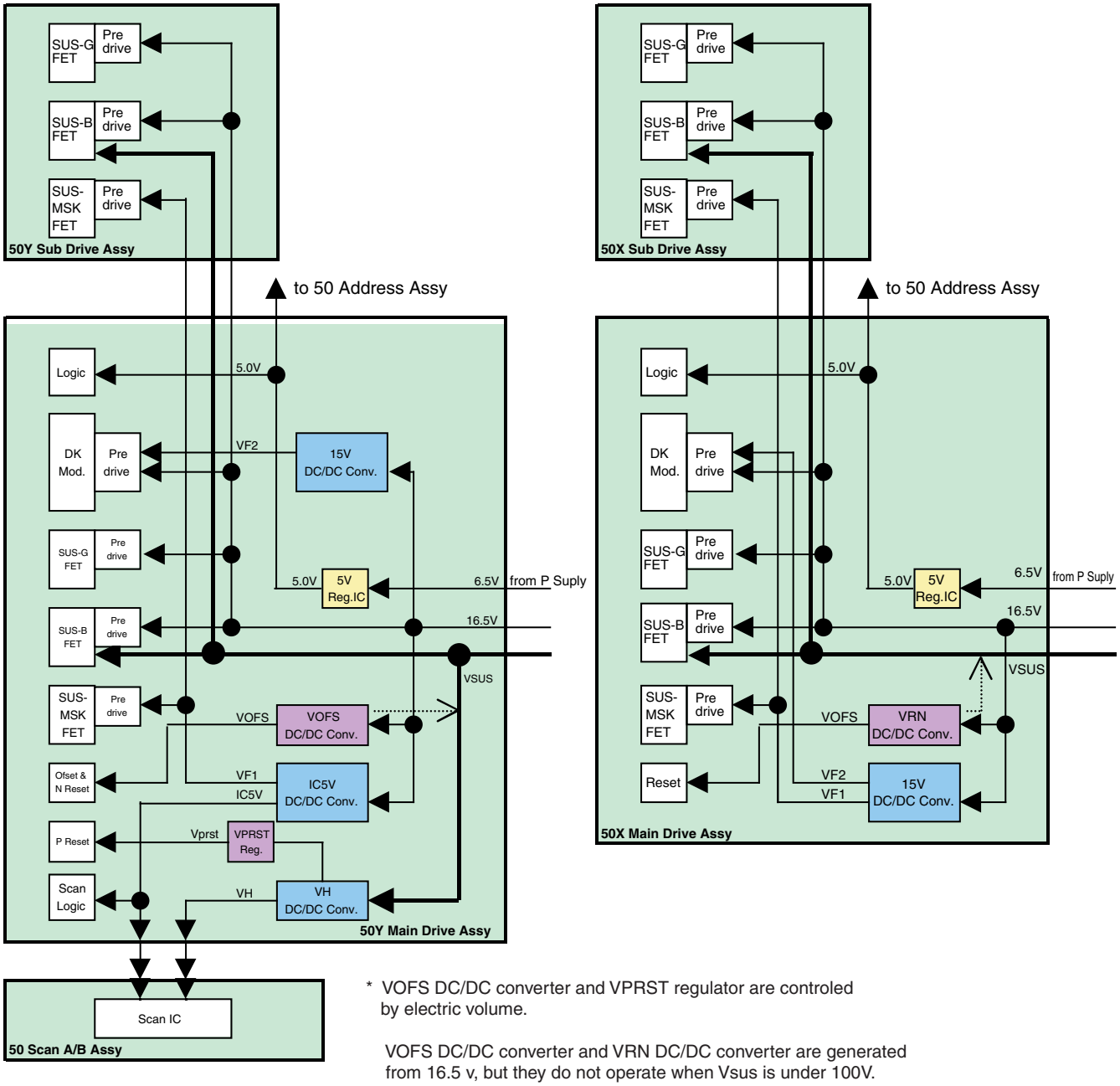
4.12 R07 DT ASSY (PDP-507XD ONLY)



4.13 MAIN ASSY POWER LINE BLOCK DIAGRAM



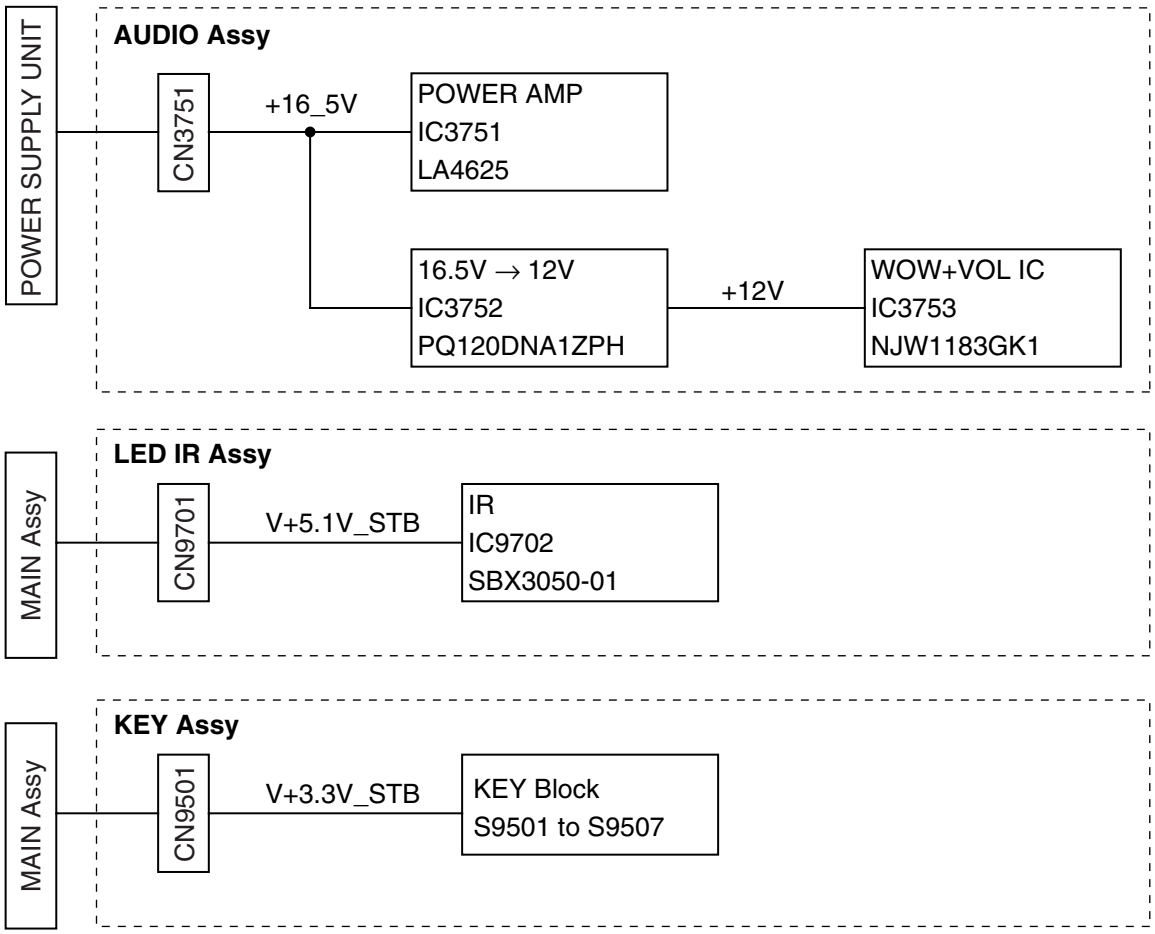
4.14 50 X/Y DRIVE POWER LINE BLOCK DIAGRAM



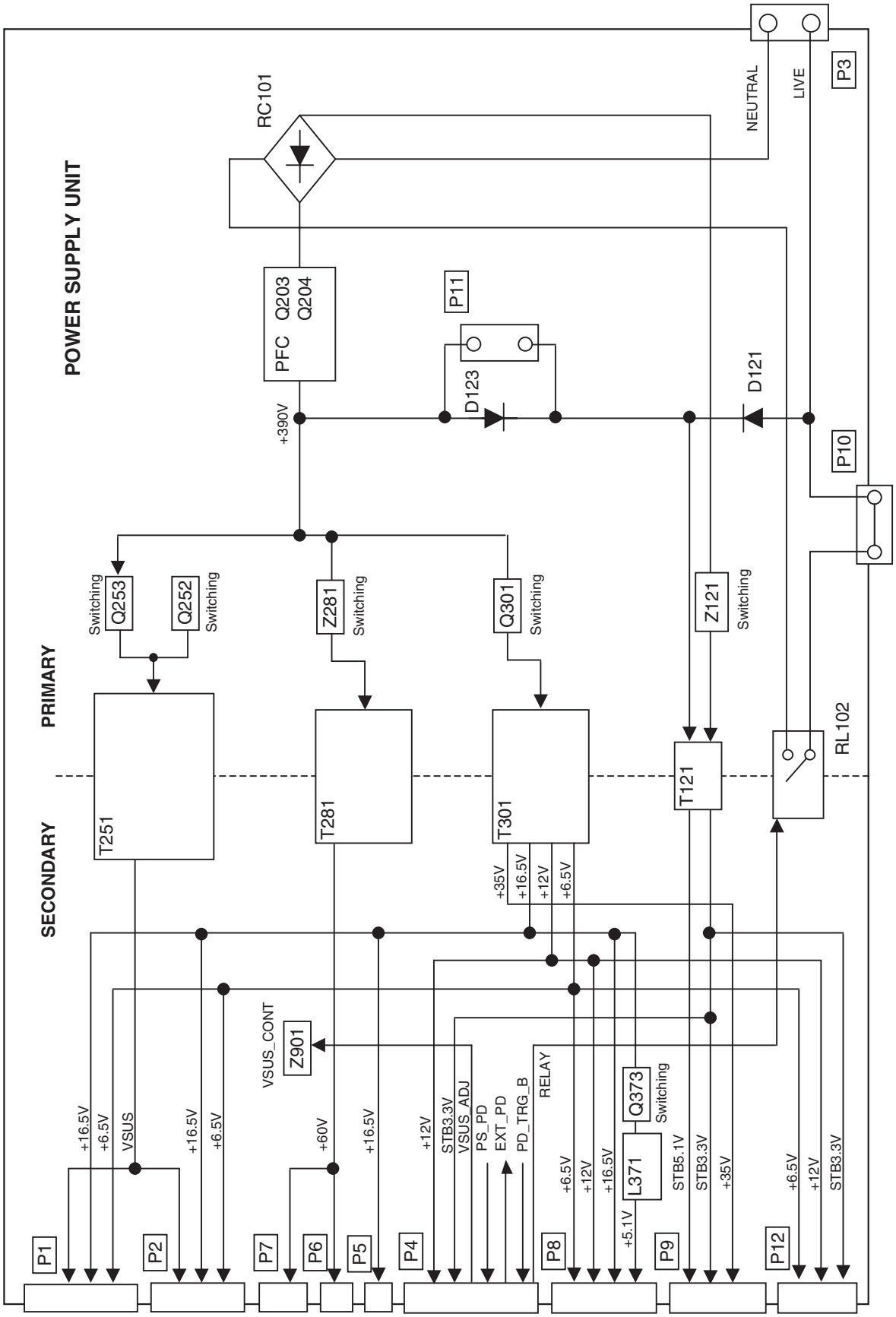
* VOFS DC/DC converter and VPRST regulator are controled by electric volume.

VOFS DC/DC converter and VRN DC/DC converter are generated from 16.5 v, but they do not operate when Vsus is under 100V.

4.15 FUKUGO BLOCK POWER LINE BLOCK DIAGRAM



4.16 POWER SUPPLY UNIT



4.17 VOLTAGES

[Voltage of the Drive Connector]

50Y MAIN DRIVE ASSY — POWER SUPPLY UNIT

Y4 CN2204(B9B-EH)		Voltage	P1 (B9B-EH)	
No.	Name	(V)	No.	Name
1	VSUS	205	1	VSUS
2	VSUS	205	2	VSUS
3	NC	-	3	N C
4	GND_SUS	0	4	GND_SUS
5	GND_SUS	0	5	GND_SUS
6	GND	0	6	GND
7	V+6.5V	5	7	V+6.5V
8	V+16.5V	16.5	8	V+16.5V
9	NC	-	9	N C

50Y MAIN DRIVE ASSY — 50 SCAN A ASSY

Y2 CN2601(AKM1200-)		Voltage	SA1 CN2801(AKM1261- -TFB)	
No.	Name	(V)	No.	Name
1	V H	GNDH+130	1	V H
2	V H	GNDH+130	2	V H
3	NC	-	3	NC
4	NC	-	4	NC
5	GNDH	-60 to 350	5	GNDH
6	SI_L	-60 to 350	6	SI_L
7	SI_H	-60 to 350	7	SI_H
8	CLR	-60 to 350	8	CLR
9	OC2	-60 to 350	9	OC2
10	OC1	-60 to 350	10	OC1
11	CLK	-60 to 350	11	CLK
12	LE	-60 to 350	12	LE
13	GNDH	-60 to 350	13	GNDH
14	GNDH_R	-60 to 350	14	GNDH_R
15	IC5V	-60 to 350	15	IC5V

50Y MAIN DRIVE ASSY — POWER SUPPLY UNIT

Y12 CN2206(KM200NA5)		Voltage	P7 (B6B-PH-K-S)	
No.	Name	(V)	No.	Name
1	VADR	60	1	VADR
2	VADR	60	2	VADR
3	N C	-	3	N C
4	GND_ADR	0	4	GND_ADR
5	GND_ADR	0	5	GND_ADR
			6	NC

50Y SUB DRIVE ASSY — 50Y MAIN DRIVE ASSY

Y9 CN2701(14R-FJ)		Voltage	Y8 CN2202(14PL-FJ)	
No.	Name	(V)	No.	Name
1	MSK-G	-60 to205	1	MSK-G
2	MSK-S	-60 to205	2	MSK-S
3	NC	-	3	NC
4	GND_SUS	0	4	GND_SUS
5	SUS_G	0	5	SUS_G
6	GND_CN	0	6	GND_CN
7	N C	-	7	N C
8	SUSOUT	0 to 205	8	SUSOUT
9	SUS_B	0 to 205	9	SUS_B
10	SUSOUT	0 to 205	10	SUSOUT
11	SUSOUT+15V	0 to 205	11	SUSOUT+15V
12	NC	-	12	NC
13	VSUS	205	13	VSUS
14	VSUS	205	14	VSUS

50X MAIN DRIVE ASSY — POWER SUPPLY UNIT

X2 CN1204(B8B-EH)		Voltage	P2 (B8B-EH)	
No.	Name	(V)	No.	Name
1	VSUS	205	1	VSUS
2	VSUS	205	2	VSUS
3	NC	-	3	NC
4	GND_SUS	0	4	GND_SUS
5	GND_SUS	0	5	GND_SUS
6	GND	0	6	GND
7	V+6.5V	5	7	V+6.5V
8	V+16.5V	16.5	8	V+16.5V

50X MAIN DRIVE ASSY — 50X SUB DRIVE ASSY

X6 CN1201(14PL-FJ)		Voltage	X7 CN1501(14R-FJ)	
No.	Name	(V)	No.	Name
1	MSK	-180 to 205	1	MSK
2	PSUS	-180 to 205	2	PSUS
3	NC	-	3	NC
4	GND_SUS	0	4	GND_SUS
5	SUS_G	0	5	SUS_G
6	GND_CN	0	6	GND_CN
7	NC	-	7	N C
8	SUSOUT	0 to 205	8	SUSOU
9	SUS_B	0 to 205	9	SUS_B
10	SUSOUT	0 to 205	10	SUSOUT
11	SUSOUT+15V	0 to 205	11	SUSOUT+15V
12	NC	-	12	N C
13	VSUS	205	13	VSUS
14	VSUS	205	14	VSUS

50X MAIN DRIVE ASSY — POWER SUPPLY UNIT

X8 CN1205(KM200NA5)		Voltage	P6 (B5B-PH-K-S)	
No.	Name	(V)	No.	Name
1	VADR	60	1	VADR
2	VADR	60	2	VADR
3	NC	-	3	NC
4	GND_ADR	0	4	GND_ADR
5	GND_ADR	0	5	GND_ADR

50Y MAIN DRIVE ASSY — 50 ADDRESS L ASSY — 50 ADDRESS S ASSY

Y5 CN2205(KM200NA8)		Voltage	AD1 CN1601(AKM1290- -TBB)		AD1 CN1801(AKM1290- -TBB)	
No.	Name	(V)	No.	Name	No.	Name
1	VADR	60	1	VADR		
2	VADR	60			1	VADR
3	GND_ADR	0	2	GND_ADR		
4	GND_ADR	0			2	GND_ADR
5	V+5.1V	5	3	V+5.1V		
6	V+5.1V	5			3	V+5.1V
7	GND	0	4	GND		
8	GND	0			4	GND

50X MAIN DRIVE ASSY — 50 ADDRESS S ASSY — 50 ADDRESS L ASSY

X3 CN1202(KM200NA8)		Voltage	AD1 CN1801(AKM1290- -TBB)		AD1 CN1601(AKM1290- -TBB)	
No.	Name	(V)	No.	Name	No.	Name
1	VADR	60	1	VADR		
2	VADR	60			1	VADR
3	GND_ADR	0	2	GND_ADR		
4	GND_ADR	0			2	GND_ADR
5	V+5.1V	5	3	V+5.1V		
6	V+5.1V	5			3	V+5.1V
7	GND	0	4	GND		
8	GND	0			4	GND

50 DIGITAL Assy — **MAIN Assy**

CN3001 (AKM1353)		Voltage (V)	CN4001 (AKM1349)	
No.	Pin Name		Pin Name	No.
1	GND	0	GND	1
2	V_3.3V_UCOM	3.3	V_3.3V_UCOM	2
3	INP_MUTE	0	INP_MUTE	3
4	THEATER	0	THEATER	4
5	VD	0/3.3	VD	5
6	HD	0/3.3	HD	6
7	DE	0/3.3	DE	7
8	GND	0	GND	8
9	CLK	0/3.3	CLK	9
10	GND	0	GND	10
11	GND	0	GND	11
12	VIDEO_R9	0	VIDEO_R9	12
13	VIDEO_R8	0	VIDEO_R8	13
14	VIDEO_R7	0	VIDEO_R7	14
15	VIDEO_R6	0	VIDEO_R6	15
16	VIDEO_R5	0	VIDEO_R5	16
17	VIDEO_R4	0	VIDEO_R4	17
18	VIDEO_R3	0	VIDEO_R3	18
19	VIDEO_R2	0	VIDEO_R2	19
20	VIDEO_R1	0	VIDEO_R1	20
21	VIDEO_R0	0	VIDEO_R0	21
22	GND	0	GND	22
23	VIDEO_G9	0	VIDEO_G9	23
24	VIDEO_G8	0	VIDEO_G8	24
25	VIDEO_G7	0	VIDEO_G7	25
26	VIDEO_G6	0	VIDEO_G6	26
27	VIDEO_G5	0	VIDEO_G5	27
28	VIDEO_G4	0	VIDEO_G4	28
29	VIDEO_G3	0	VIDEO_G3	29
30	VIDEO_G2	0	VIDEO_G2	30
31	VIDEO_G1	0	VIDEO_G1	31
32	VIDEO_G0	0	VIDEO_G0	32
33	GND	0	GND	33
34	VIDEO_B9	0	VIDEO_B9	34
35	VIDEO_B8	0	VIDEO_B8	35
36	VIDEO_B7	0	VIDEO_B7	36
37	VIDEO_B6	0	VIDEO_B6	37
38	VIDEO_B5	0	VIDEO_B5	38
39	VIDEO_B4	0	VIDEO_B4	39
40	VIDEO_B3	0	VIDEO_B3	40
41	VIDEO_B2	0	VIDEO_B2	41
42	VIDEO_B1	0	VIDEO_B1	42
43	VIDEO_B0	0	VIDEO_B0	43
44	GND	0	GND	44
45	Reserve	0	Reserve	45
46	AC_OFF	0	AC_OFF	46
47	TXD_MD	3.3	TXD_MD	47
48	RXD_MD	3.3	RXD_MD	48
49	REQ_MD	0	REQ_MD	49
50	MODE	0	MODE	50

TANSHI Assy — **MAIN Assy**

CN8802 (AKM1349)		Voltage (V)	CN4004 (AKM1349)	
No.	Pin Name		Pin Name	No.
1	Input3_G	2.4	Input3_G	50
2	GND	0	GND	49
3	Input3_B	2.4	Input3_B	48
4	GND	0	GND	47
5	Input3_R	2.4	Input3_R	46
6	GND	0	GND	45
7	Input1_G	2.4	Input1_G	44
8	GND	0	GND	43
9	Input1_B	2.4	Input1_B	42
10	GND	0	GND	41
11	Input1_R	2.4	Input1_R	40
12	GND	0	GND	39
13	RAPID_SW3	0	RAPID_SW3	38
14	RAPID_SW1	0	RAPID_SW1	37
15	GND	0	GND	36
16	LINK_IO3	4.9	LINK_IO3	35
17	GND	0	GND	34
18	LINK_IO2	4.9	LINK_IO2	33
19	SLOW_SW1	0	SLOW_SW1	32
20	SLOW_SW2	0	SLOW_SW2	31
21	SLOW_SW3	0	SLOW_SW3	30
22	IN2_CompY_PLUG	0	IN2_CompY_PLUG	29
23	GND	0	GND	28
24	Input2_Y	2.4	Input2_Y	27
25	GND	0	GND	26
26	Input2_Pb	2.4	Input2_Pb	25
27	GND	0	GND	24
28	Input2_Pr	2.4	Input2_Pr	23
29	GND	0	GND	22
30	Input3_V	0	Input3_V	21
31	GND	0	GND	20
32	Input3_SC	2.2	Input3_SC	19
33	GND	0	GND	18
34	Input2_V	0	Input2_V	17
35	GND	0	GND	16
36	Input2_SC	2.2	Input2_SC	15
37	GND	0	GND	14
38	Input1_V	2.6	Input1_V	13
39	GND	0	GND	12
40	AIR_OUT_V	3.4	AIR_OUT_V	11
41	GND	0	GND	10
42	SCART_OUT_V	3.6	SCART_OUT_V	9
43	GND	0	GND	8
44	Input1_Lch	4.5	Input1_Lch	7
45	GND	0	GND	6
46	Input1_Rch	4.5	Input1_Rch	5
47	GND	0	GND	4
48	Input2_Lch	4.5	Input2_Lch	3
49	GND	0	GND	2
50	Input2_Rch	4.5	Input2_Rch	1

TANSHI Assy **MAIN Assy**

CN9003 (AKM1349)		Voltage (V)	CN4005 (AKM1349)	
No.	Pin Name		Pin Name	No.
1	V+9V_A	9.1	V+9V_A	50
2	V+9V_AS	9	V+9V_AS	49
3	GND	0	GND	48
4	INPUT3_Lch	4.5	INPUT3_Lch	47
5	GND	0	GND	46
6	INPUT3_Rch	4.5	INPUT3_Rch	45
7	GND	0	GND	44
8	PC_Lch	4.5	PC_Lch	43
9	GND	0	GND	42
10	PC_Rch	4.5	PC_Rch	41
11	GND	0	GND	40
12	SIDE_Lch	4.5	SIDE_Lch	39
13	GND	0	GND	38
14	SIDE_Rch	4.5	SIDE_Rch	37
15	GND	0	GND	36
16	AIR_Lch	3.8	AIR_Lch	35
17	GND	0	GND	34
18	AIR_Rch	3.8	AIR_Rch	33
19	GND	0	GND	32
20	SCART_OUT_Lch	4.5	SCART_OUT_Lch	31
21	GND	0	GND	30
22	SCART_OUT_Rch	4.5	SCART_OUT_Rch	29
23	V+3_3V_STB	3.3	V+3_3V_STB	28
24	HP_L	4.5	HP_L	27
25	GND	0	GND	26
26	HP_R	4.5	HP_R	25
27	GND	0	GND	24
28	SIDE_PLUG	4.9	SIDE_PLUG	23
29	SIDE_V	2.5	SIDE_V	22
30	GND	0	GND	21
31	SIDE_SY	2.5	SIDE_SY	20
32	GND	0	GND	19
33	SIDE_S2	0.2	SIDE_S2	18
34	GND	0	GND	17
35	SIDE_SC	0	SIDE_SC	16
36	GND	0	GND	15
37	AUDIO_OUT_Lch	4.6	AUDIO_OUT_Lch	14
38	GND	0	GND	13
39	AUDIO_OUT_Rch	4.6	AUDIO_OUT_Rch	12
40	GND	0	GND	11
41	RXD_SR	3.2	RXD_SR	10
42	TXD_SR	3.2	TXD_SR	9
43	SR_OUT	5.0	SR_OUT	8
44	AC_SC3_MUTE	0	AC_SC3_MUTE	7
45	AC_SC2_MUTE	0	AC_SC2_MUTE	6
46	AC_SC1_MUTE	0	AC_SC1_MUTE	5
47	AC_AM_MUTE	0	AC_AM_MUTE	4
48	AC_HP_MUTE	0	AC_HP_MUTE	3
49	HP_PLUG	2.9	HP_PLUG	2
50	V+5V_A	5.0	V+5V_A	1

R07 DT Assy **MAIN Assy**

CN6003 (AKM1349)		Voltage (V)	CN4013 (AKM1353)	
No.	Pin Name		Pin Name	No.
1	GND	0	GND	50
2	RXDA (TXD_DT)	3.3	TXD_DT (RXDA)	49
3	TXDA (RXD_DT)	3.3	RXD_DT (TXDA)	48
4	GND	0	GND	47
5	DT_FNC	3.3	DT_FNC	46
6	GND	0	GND	45
7	CLK_DT	0 to 3.3	CLK_DT	44
8	GND	0	GND	43
9	DVID_CrCb [7] (Y7_DT)	0 to 3.3	Y7_DT (DVID_CrCb [7])	42
10	DVID_CrCb [6] (Y6_DT)	0 to 3.3	Y6_DT (DVID_CrCb [6])	41
11	GND	0	GND	40
12	DVID_CrCb [5] (Y5_DT)	0 to 3.3	Y5_DT (DVID_CrCb [5])	39
13	DVID_CrCb [4] (Y4_DT)	0 to 3.3	Y4_DT (DVID_CrCb [4])	38
14	GND	0	GND	37
15	DVID_CrCb [3] (Y3_DT)	0 to 3.3	Y3_DT (DVID_CrCb [3])	36
16	DVID_CrCb [2] (Y2_DT)	0 to 3.3	Y2_DT (DVID_CrCb [2])	35
17	GND	0	GND	34
18	DVID_CrCb [1] (Y1_DT)	0 to 3.3	Y1_DT (DVID_CrCb [1])	33
19	DVID_CrCb [0] (Y0_DT)	0 to 3.3	Y0_DT (DVID_CrCb [0])	32
20	GND	0	GND	31
21	NC	0	CB7_DT	30
22	NC	0	CB6_DT	29
23	GND	0	GND	28
24	GND	0	CB5_DT	27
25	GND	0	CB4_DT	26
26	GND	0	GND	25
27	GND	0	CB3_DT	24
28	GND	0	CB2_DT	23
29	GND	0	GND	22
30	GND	0	CB1_DT	21
31	GND	0	CB0_DT	20
32	GND	0	GND	19
33	GND	0	CR7_DT	18
34	GND	0	CR6_DT	17
35	GND	0	GND	16
36	GND	0	CR5_DT	15
37	GND	0	CR4_DT	14
38	GND	0	GND	13
39	GND	0	CR3_DT	12
40	GND	0	CR2_DT	11
41	GND	0	GND	10
42	GND	0	CR1_DT	9
43	GND	0	CR0_DT	8
44	GND	0	GND	7
45	DE_DT	0	DE_DT	6
46	GND	0	GND	5
47	VD_DT	3.3	VD_DT	4
48	GND	0	GND	3
49	HD_DT	3.3	HD_DT	2
50	GND	0	GND	1

R07 DT Assy — **MAIN Assy**

CN4000 (AKM1348)		Voltage (V)	CN4014 (AKM1354)	
No.	Pin Name		Pin Name	No.
1	GND	0	GND	40
2	GND	0	GND	39
3	GND	0	GND	38
4	GND	0	GND	37
5	GND	0	GND	36
6	GND	0	GND	35
7	DT_SP_R	0	DT_SP_R	34
8	GND	0	GND	33
9	DT_SP_L	0	DT_SP_L	32
10	GND	0	GND	31
11	OPT_R	0	OPT_R	30
12	GND	0	GND	29
13	OPT_L	0	OPT_L	28
14	GND	0	GND	27
15	DT_MON_C	1.7	DT_MON_C	26
16	GND	0	GND	25
17	GND	0	GND	24
18	DT_MON_Y	1.7	DT_MON_Y	23
19	GND	0	GND	22
20	GND	0	GND	21
21	GND	0	GND	20
22	GND	0	GND	19
23	GND	0	GND	18
24	GND	0	GND	17
25	GND	0	GND	16
26	GND	0	GND	15
27	NOT_USE	0	NC	14
28	GND	0	GND	13
29	GND	0	GND	12
30	NOT_USE	0	NC	11
31	GND	0	GND	10
32	GND	0	GND	9
33	NOT_USE	0	NC	8
34	GND	0	GND	7
35	GND	0	GND	6
36	ANT_POW_EU	0	ANT_POW_EU	5
37	POW_DET	0	POW_DET	4
38	RST_DT	3.3	RST_DT	3
39	DT_DET	0	DT_DET	2
40	GND	0	GND	1

AUDIO Assy — **MAIN Assy**

CN3752 (KM200NA11)		Voltage (V)	CN4007 (KM200NA11)	
No.	Pin Name		Pin Name	No.
11	PSW_A	2.8	PSW_A	11
10	SDA_AU	3.4	SDA_AU	10
9	SCL_AU	3.4	SCL_AU	9
8	A_MUTE	0	A_MUTE	8
7	A_STBY_B	3.4	A_STBY_B	7
6	GND	0	GND	6
5	AUDIO_R	0	AUDIO_R	5
4	GND	0	GND	4
3	AUDIO_L	0	AUDIO_L	3
2	GND	0	GND	2
1	A_NG_B	2.8	A_NG_B	1

AUDIO — **MAIN Assy**

		Voltage (V)	CN4015 (B3P-VH)	
No.	Pin Name		Pin Name	No.
		17.2	V+16_5V	1
		0	GND	2
		0	GND	3

DVI JIG — **MAIN Assy**

		Voltage (V)	CN4011 (AKM1274)	
No.	Pin Name		Pin Name	No.
		0	GND	1
		3.4	V+3_3V_STB	2
		6.5	V+6_5V	3

MAIN Assy

		Voltage (V)	CN4010 (KM200NA7)	
No.	Pin Name		Pin Name	No.
2	REM	0	REM	7
6	GND	0	GND	6
1	V+5_1V_STB	5.0	V+5_1V_STB	5
4	V+3_3V_STB	3.4	V+3_3V_STB	4
3	KEY_AD1	3.4	KEY_AD1	3
2	KEY_AD2	3.4	KEY_AD2	2
1	GND	0	GND	1

LED IR Assy CN9701 (AKP1303)

SIDE KEY Assy CN9501 (KM200NA4L)

R07 DT Assy — **MAIN Assy**

CN6000 (AKM1298)		Voltage (V)	CN4017 (KM200NA12)	
No.	Pin Name		Pin Name	No.
1	V+35V	37.0	V+35V	12
2	GND	0	GND	11
3	NC	0	NC	10
4	GND	0	GND	9
5	V+12V	11.8	V+12V	8
6	GND	0	GND	7
7	V+6_5V	6.7	V+6_5V	6
8	V+5_1V_STB	5.1	V+5_1V_STB	5
9	V+5_1V	5.0	V+5_1V	4
10	V+5_1V	5.0	V+5_1V	3
11	GND	0	GND	2
12	V+3_3V_STB	3.4	V+3_3V_STB	1

POWER SUPPLY Unit **MAIN Assy**

P8 (B13B-PH-K-S)		Voltage (V)	CN4002 (KM200NA13)	
No.	Pin Name		Pin Name	No.
1	V+6_5V	6.6	V+6_5V	1
2	GND	0	GND	2
3	V+12V	12.1	V+12V	3
4	GND	0	GND	4
5	+16.5V	17.2	V+16.5V	5
6	GND	0	GND	6
7	+5_1V	4.9	V+5_1V	7
8	+5_1V	4.9	V+5_1V	8
9	+5_1V	4.9	V+5_1V	9
10	+5_1V	4.9	V+5_1V	10
11	GND-D	0	GND	11
12	GND-D	0	GND	12
13	GND-D	0	GND	13

POWER SUPPLY Unit **MAIN Assy**

P9 (B11B-PH-K-S)		Voltage (V)	CN4008 (KM200NA11)	
No.	Pin Name		Pin Name	No.
1	M-SW-DET	3.4	N.C.	1
2	AC-DET	3.4	AC_DET	2
3	N.C.	3.4	RELAY	3
4	GND-D	0	GND	4
5	STB3_3V	3.4	V+3_3V_STB	5
6	GND-D	0	GND	6
7	STBY5_1V	5.0	V+5_1V_STB	7
8	GND-D	0	GND	8
9	+35V	35.0	V+35V	9
10	GND-D	0	GND	10
11	US-SW	0	US_SW	11

Fan **MAIN Assy**

		Voltage (V)	CN4009 (KM200NA3)	
No.	Pin Name		Pin Name	No.
		0	FAN_VCC	1
		3.4	FAN_NG1	2
		0	GND	3

PC Assy **MAIN Assy**

CN9301 (CKS3826)		Voltage (V)	CN4018 (AKM1234)	
No.	Pin Name		Pin Name	No.
1	V+5V_A	5.0	V+5V_A	12
2	WE ROM	0	WE ROM	11
3	D-sub DET	0	D-sub DET	10
4	V+3.3V_UCOM	3.3	V+3.3V_UCOM	9
5	PC_V	0	PC_V	8
6	PC_H	0	PC_H	7
7	V+9V_A	9.0	V+9V_A	6
8	PC_G	2.4	PC_G	5
9	GND	0	GND	4
10	PC_B	2.4	PC_B	3
11	GND	0	GND	2
12	PC_R	2.4	PC_R	1

LED IR Assy/KEY Assy **MAIN Assy**

CN9701/CN9501			Voltage (V)	CN4010 (KM200NA7)	
No.	Connector	Pin Name		Pin Name	No.
2	CN9701	REM	0	REM	7
6	CN9701	GND	0	GND	6
1	CN9701	V+5.1V_STB	5	V+5.1V_STB	5
4	CN9501	V+3.3V_STB	3.4	V+3.3V_STB	4
3	CN9501	KEY_AD1	3.4	KEY_AD1	3
2	CN9501	KEY_AD2	3.4	KEY_AD2	2
1	CN9501	GND	0	GND	1

50LED Assy/KEY Assy **MAIN Assy**

CN9651/CN9701			Voltage (V)	CN4006 (KM200NA6)	
No.	Connector	Pin Name		Pin Name	No.
1	CN9651	LED–	0.2	LED–	1
2	CN9651	LED_ON	3.4	LED_ON	2
3	CN9651	LED_OFF	0	LED_OFF	3
4	CN9701	LED_REC	0	LED_REC	4
5	CN9701	LED_MDM	0	LED_MDM	5
3	CN9701	LED–	0.2	LED–	6

■50 DIGITAL ASSY

CN3001 (D11) ↔ MAIN ASSY CN4001 (M1)

Pin No.	Pin Name	I/O	Function	Voltage (V)	TP
1	GND	–	GND	–	–
2	V+3.3V_UCOM2	I	Power supply for module microcomputer	3.3	–
3	INP_MUTE	O	Video signal input shut out control signal	0	–
4	THEATER	I	Control signal for pure cinema	0 to 3.3	–
5	VD	I	Vertical synchronized signal	0 to 3.3	–
6	HD	I	Horizontal synchronized signal	0 to 3.3	–
7	DE	I	Data enable signal	0 to 3.3	–
8	GND	–	GND	–	–
9	CLK	I	Data clock signal	0 to 3.3	–
10	GND	–	GND	–	–
11	GND	–	GND	–	–
12	VIDEO_R9	I	10 bit video signal input (RED)	0 to 3.3	–
13	VIDEO_R8	I	10 bit video signal input (RED)	0 to 3.3	–
14	VIDEO_R7	I	10 bit video signal input (RED)	0 to 3.3	–
15	VIDEO_R6	I	10 bit video signal input (RED)	0 to 3.3	–
16	VIDEO_R5	I	10 bit video signal input (RED)	0 to 3.3	–
17	VIDEO_R4	I	10 bit video signal input (RED)	0 to 3.3	–
18	VIDEO_R3	I	10 bit video signal input (RED)	0 to 3.3	–
19	VIDEO_R2	I	10 bit video signal input (RED)	0 to 3.3	–
20	VIDEO_R1	I	10 bit video signal input (RED)	0 to 3.3	–
21	VIDEO_R0	I	10 bit video signal input (RED)	0 to 3.3	–
22	GND	–	GND	–	–
23	VIDEO_G9	I	10 bit video signal input (GREEN)	0 to 3.3	–
24	VIDEO_G8	I	10 bit video signal input (GREEN)	0 to 3.3	–
25	VIDEO_G7	I	10 bit video signal input (GREEN)	0 to 3.3	–
26	VIDEO_G6	I	10 bit video signal input (GREEN)	0 to 3.3	–
27	VIDEO_G5	I	10 bit video signal input (GREEN)	0 to 3.3	–
28	VIDEO_G4	I	10 bit video signal input (GREEN)	0 to 3.3	–
29	VIDEO_G3	I	10 bit video signal input (GREEN)	0 to 3.3	–
30	VIDEO_G2	I	10 bit video signal input (GREEN)	0 to 3.3	–
31	VIDEO_G1	I	10 bit video signal input (GREEN)	0 to 3.3	–
32	VIDEO_G0	I	10 bit video signal input (GREEN)	0 to 3.3	–
33	GND	–	GND	–	–
34	VIDEO_B9	I	10 bit video signal input (BLUE)	0 to 3.3	–
35	VIDEO_B8	I	10 bit video signal input (BLUE)	0 to 3.3	–
36	VIDEO_B7	I	10 bit video signal input (BLUE)	0 to 3.3	–
37	VIDEO_B6	I	10 bit video signal input (BLUE)	0 to 3.3	–
38	VIDEO_B5	I	10 bit video signal input (BLUE)	0 to 3.3	–
39	VIDEO_B4	I	10 bit video signal input (BLUE)	0 to 3.3	–
40	VIDEO_B3	I	10 bit video signal input (BLUE)	0 to 3.3	–
41	VIDEO_B2	I	10 bit video signal input (BLUE)	0 to 3.3	–
42	VIDEO_B1	I	10 bit video signal input (BLUE)	0 to 3.3	–
43	VIDEO_B0	I	10 bit video signal input (BLUE)	0 to 3.3	–
44	GND	–	GND	–	–
45	RESERVE (N.C.)	–	Reserve	–	–
46	AC_OFF (N.C.)	O	AC state input	–	–
47	TXD_MD	O	UART communication	3.3	–
48	RXD_MD	I	UART communication	3.3	–
49	REQ_MD	O	Communication demand to main system	0	–
50	MODE	O	Model distinction	0	–

CN3002 (D12) ↔ Reserve (Non connection)

Pin No.	Pin Name	I/O	Function	Voltage (V)	TP
1	V+3V_D	O	+3.3 V power supply output	3.3	–
2	V+3V_D	O	+3.3 V power supply output	3.3	–
3	V+3V_D	O	+3.3 V power supply output	3.3	–
4	GND_D	–	GND	–	–
5	GND_D	–	GND	–	–
6	GND_D	–	GND	–	–
7	LED_R	O	Red LED control output	0 to 3.3	–
8	LED_B	O	Blue LED control output	0 to 3.3	–
9	MSEL	I	Control select	0 to 3.3	–
10	PBF	I	Panel type judge	0 to 3.3	–
11	NC	I	Non connection	–	–
12	YOBI0	I	Reserve input	–	–
13	YOBI1	I	Reserve input	–	–
14	YOBI2	I	Reserve input	–	–
15	YOBI3	I	Reserve input	–	–
16	YOBI4	I	Reserve input	–	–
17	NC	I	Non connection	–	–
18	NC	I	Non connection	–	–
19	V+3V_STB	O	STB 3.3 V power supply output	3.3	–
20	GND_D	–	GND	–	–

CN3151 (D24) ↔ SENSOR ASSY CN3651 (TE1)

Pin No.	Pin Name	I/O	Function	Voltage (V)	TP
1	V+3.3V_EEP	O	Power supply output for memory	3.3	–
2	E_SCL	O	IIC communication clock signal	0 to 3.3	–
3	E_SDA	O	IIC communication data signal	0 to 3.3	–
4	TEMP1	I	Panel temperature sensor signal	0 to 3.3	–
5	GND	–	GND	–	–

CN3601 (D21) ↔ POWER SUPPLY UNIT (P4)

Pin No.	Pin Name	I/O	Function	Voltage (V)	TP
1	V+12V	I	+12 V power supply input	12	–
2	V+12V	I	+12 V power supply input	12	–
3	GND	–	GND	–	–
4	GND	–	GND	–	–
5	V+3.3V_STB	I	STB3.3 V power supply input	0 to 3.3	–
6	GND	–	GND	–	–
7	M_SW_DET	I	Mechanism switch detection signal input	0 to 3.3	–
8	EXT_PD	O	Power down signal	0 to 3.3	–
9	VSUS_ADJ	O	VSUS power supply adjustment signal	0 to 3.3	–
10	PS_PD	I	Power supply PD signal	0 to 3.3	–
11	RELAY	O	Relay control	0 to 3.3	–
12	DRF_B	O	Large power supply ON/OFF control signal	0 to 3.3	–
13	AC_DET	I	AC power supply state input	0 to 3.3	–
14	PD_TRG_B	I	Power down trigger signal	0 to 3.3	–

CN3501 (D15) ↔ 50 ADDRESS L ASSY CN1602 (AD1)

Pin No.	Pin Name	I/O	Function	Voltage (V)	TP
1	NC	–	Non connection	–	–
2	ADR_PD	I	Address PD signal	0 to 3.3	–
3	PSIZE	I	Panel size judge signal	0	–
4	GND	–	GND	–	–
5	V+8V	O	+8 V power supply input	8	–
6	V+8V	O	+8 V power supply input	8	–
7	GND	–	GND	–	–
8	GND_LVDS	–	GND	–	–
9	NC	–	Non connection	–	–
10	TAN	O	LVDS data	1 to 1.4	–
11	TAP	O	LVDS data	1 to 1.4	–
12	NC	–	Non connection	–	–
13	GND_LVDS	–	GND	–	–
14	NC	–	Non connection	–	–
15	TBN	O	LVDS data	1 to 1.4	–
16	TBP	O	LVDS data	1 to 1.4	–
17	NC	–	Non connection	–	–
18	GND_LVDS	–	GND	–	–
19	NC	–	Non connection	–	–
20	TCN	O	LVDS data	1 to 1.4	–
21	TCP	O	LVDS data	1 to 1.4	–
22	NC	–	Non connection	–	–
23	GND_LVDS	–	GND	–	–
24	NC	–	Non connection	–	–
25	TCLKN	O	LVDS data	1 to 1.4	–
26	TCLKP	O	LVDS data	1 to 1.4	–
27	NC	–	Non connection	–	–
28	GND_LVDS	–	GND	–	–
29	NC	–	Non connection	–	–
30	TDN	O	LVDS data	1 to 1.4	–
31	TDP	O	LVDS data	1 to 1.4	–
32	NC	–	Non connection	–	–
33	GND_LVDS	–	GND	–	–
34	GND	–	GND	–	–
35	V+3.3V	O	+3.3 V power supply output	3.3	–
36	V+3.3V	O	+3.3 V power supply output	3.3	–
37	GND	–	GND	–	–
38	DIV1	O	Data output timing control	3.3	–
39	DIV0	O	Data output timing control	3.3	–
40	GND	–	GND	–	–

CN3502 (D16) ↔ 50 ADDRESS S ASSY CN1802 (AD1)

Pin No.	Pin Name	I/O	Function	Voltage (V)	TP
1	NC	–	Non connection	–	–
2	ADR_PD	I	Address PD signal	0 to 3.3	–
3	PSIZE	I	Panel size judge signal	0	–
4	GND	–	GND	–	–
5	V+8V	O	+8 V power supply input	8	–
6	V+8V	O	+8 V power supply input	8	–
7	GND	–	GND	–	–
8	GND_LVDS	–	GND	–	–
9	NC	–	Non connection	–	–
10	TAN	O	LVDS data	1 to 1.4	–
11	TAP	O	LVDS data	1 to 1.4	–
12	NC	–	Non connection	–	–
13	GND_LVDS	–	GND	–	–
14	NC	–	Non connection	–	–
15	TBN	O	LVDS data	1 to 1.4	–
16	TBP	O	LVDS data	1 to 1.4	–
17	NC	–	Non connection	–	–
18	GND_LVDS	–	GND	–	–
19	NC	–	Non connection	–	–
20	TCN	O	LVDS data	1 to 1.4	–
21	TCP	O	LVDS data	1 to 1.4	–
22	NC	–	Non connection	–	–
23	GND_LVDS	–	GND	–	–
24	NC	–	Non connection	–	–
25	TCLKN	O	LVDS data	1 to 1.4	–
26	TCLKP	O	LVDS data	1 to 1.4	–
27	NC	–	Non connection	–	–
28	GND_LVDS	–	GND	–	–
29	NC	–	Non connection	–	–
30	TDN	O	LVDS data	1 to 1.4	–
31	TDP	O	LVDS data	1 to 1.4	–
32	NC	–	Non connection	–	–
33	GND_LVDS	–	GND	–	–
34	GND	–	GND	–	–
35	V+3.3V	O	+3.3 V power supply output	3.3	–
36	V+3.3V	O	+3.3 V power supply output	3.3	–
37	GND	–	GND	–	–
38	DIV1	O	Data output timing control	0	–
39	DIV0	O	Data output timing control	0	–
40	GND	–	GND	–	–

CN3503 (D17) ↔ 50 ADDRESS S ASSY CN1802 (AD1)

Pin No.	Pin Name	I/O	Function	Voltage (V)	TP
1	NC	–	Non connection	–	–
2	ADR_PD	I	Address PD signal	0 to 3.3	–
3	PSIZE	I	Panel size judge signal	0	–
4	GND	–	GND	–	–
5	V+8V	O	+8 V power supply input	8	–
6	V+8V	O	+8 V power supply input	8	–
7	GND	–	GND	–	–
8	GND_LVDS	–	GND	–	–
9	NC	–	Non connection	–	–
10	TAN	O	LVDS data	1 to 1.4	–
11	TAP	O	LVDS data	1 to 1.4	–
12	NC	–	Non connection	–	–
13	GND_LVDS	–	GND	–	–
14	NC	–	Non connection	–	–
15	TBN	O	LVDS data	1 to 1.4	–
16	TBP	O	LVDS data	1 to 1.4	–
17	NC	–	Non connection	–	–
18	GND_LVDS	–	GND	–	–
19	NC	–	Non connection	–	–
20	TCN	O	LVDS data	1 to 1.4	–
21	TCP	O	LVDS data	1 to 1.4	–
22	NC	–	Non connection	–	–
23	GND_LVDS	–	GND	–	–
24	NC	–	Non connection	–	–
25	TCLKN	O	LVDS data	1 to 1.4	–
26	TCLKP	O	LVDS data	1 to 1.4	–
27	NC	–	Non connection	–	–
28	GND_LVDS	–	GND	–	–
29	NC	–	Non connection	–	–
30	TDN	O	LVDS data	1 to 1.4	–
31	TDP	O	LVDS data	1 to 1.4	–
32	NC	–	Non connection	–	–
33	GND_LVDS	–	GND	–	–
34	GND	–	GND	–	–
35	V+3.3V	O	+3.3 V power supply output	3.3	–
36	V+3.3V	O	+3.3 V power supply output	3.3	–
37	GND	–	GND	–	–
38	DIV1	O	Data output timing control	3.3	–
39	DIV0	O	Data output timing control	0	–
40	GND	–	GND	–	–

CN3504 (D18) ↔ 50 ADDRESS L ASSY CN1602 (AD1)

Pin No.	Pin Name	I/O	Function	Voltage (V)	TP
1	NC	–	Non connection	–	–
2	ADR_PD	I	Address PD signal	0 to 3.3	–
3	PSIZE	I	Panel size judge signal	0	–
4	GND	–	GND	–	–
5	V+8V	O	+8 V power supply input	8	–
6	V+8V	O	+8 V power supply input	8	–
7	GND	–	GND	–	–
8	GND_LVDS	–	GND	–	–
9	NC	–	Non connection	–	–
10	TAN	O	LVDS data	1 to 1.4	–
11	TAP	O	LVDS data	1 to 1.4	–
12	NC	–	Non connection	–	–
13	GND_LVDS	–	GND	–	–
14	NC	–	Non connection	–	–
15	TBN	O	LVDS data	1 to 1.4	–
16	TBP	O	LVDS data	1 to 1.4	–
17	NC	–	Non connection	–	–
18	GND_LVDS	–	GND	–	–
19	NC	–	Non connection	–	–
20	TCN	O	LVDS data	1 to 1.4	–
21	TCP	O	LVDS data	1 to 1.4	–
22	NC	–	Non connection	–	–
23	GND_LVDS	–	GND	–	–
24	NC	–	Non connection	–	–
25	TCLKN	O	LVDS data	1 to 1.4	–
26	TCLKP	O	LVDS data	1 to 1.4	–
27	NC	–	Non connection	–	–
28	GND_LVDS	–	GND	–	–
29	NC	–	Non connection	–	–
30	TDN	O	LVDS data	1 to 1.4	–
31	TDP	O	LVDS data	1 to 1.4	–
32	NC	–	Non connection	–	–
33	GND_LVDS	–	GND	–	–
34	GND	–	GND	–	–
35	V+3.3V	O	+3.3 V power supply output	3.3	–
36	V+3.3V	O	+3.3 V power supply output	3.3	–
37	GND	–	GND	–	–
38	DIV1	O	Data output timing control	0	–
39	DIV0	O	Data output timing control	3.3	–
40	GND	–	GND	–	–

CN3506 (D20) ↔ 50 Y MAIN DRIVE ASSY CN2001 (Y1)

Pin No.	Pin Name	I/O	Function	Voltage (V)	TP
40	PSW2	O	Function standby control signal	0 to 3.3	–
39	YDRV_PD	I	Y drive PD signal	0 to 3.3	–
38	SCAN_PD	I	Y drive PD signal	0 to 3.3	–
37	YSUS_PD	I	Y drive PD signal	0 to 3.3	–
36	YDD_PD	I	Y drive PD signal	0 to 3.3	–
35	GND	–	GND	–	–
34	GND	–	GND	–	–
33	GND	–	GND	–	–
32	GND	–	GND	–	–
31	VYPRST_ADJ	O	Y drive control signal	0 to 3.3	–
30	VOFS_ADJ	O	Y drive control signal	0 to 3.3	–
29	GND	–	GND	–	–
28	YSOFT-D	O	Y drive control signal	0 to 3.3	–
27	YRsv3	O	Y drive control signal	0 to 3.3	–
26	YNOFS	O	Y drive control signal	0 to 3.3	–
25	GND	–	GND	–	–
24	YRsv2	O	Y drive control signal	0 to 3.3	–
23	YNRST	O	Y drive control signal	0 to 3.3	–
22	YSUS_MSK	O	Y drive control signal	0 to 3.3	–
21	GND	–	GND	–	–
20	SUS_MUTE	O	Y drive control signal	0 to 3.3	–
19	YPR-U	O	Y drive control signal	0 to 3.3	–
18	GND	–	GND	–	–
17	YSUS_G	O	Y drive control signal	0 to 3.3	–
16	YSUS_D	O	Y drive control signal	0 to 3.3	–
15	GND	–	GND	–	–
14	YSUS_U	O	Y drive control signal	0 to 3.3	–
13	YSUS_B	O	Y drive control signal	0 to 3.3	–
12	GND	–	GND	–	–
11	OC1 (–1)	O	Scan control signal	0 to 3.3	–
10	OC2	O	Scan control signal	0 to 3.3	–
9	LE	O	Scan control signal	0 to 3.3	–
8	GND	–	GND	–	–
7	CLK1	O	Scan control signal	0 to 3.3	–
6	CLR	O	Scan control signal	0 to 3.3	–
5	GND	–	GND	–	–
4	SI_H	O	Scan control signal	0 to 3.3	–
3	SI_L	O	Scan control signal	0 to 3.3	–
2	SCN5V_PD	I	Scan 5 V PD signal	0 to 3.3	–
1	YCN_PD	O	Y drive PD signal	0 to 3.3	–

CN3505 (D19) ↔ 50 X MAIN DRIVE ASSY CN1001 (X1)

Pin No.	Pin Name	I/O	Function	Voltage (V)	TP
1	PSW2	O	Function standby control signal	0 to 3.3	–
2	XSUS_PD	I	X drive PD signal	0 to 3.3	–
3	XDD_PD	I	X drive PD signal	0 to 3.3	–
4	XDRV_PD	I	X drive PD signal	0 to 3.3	–
5	GND	–	GND	–	–
6	SUS_MUTE	O	X drive control signal	0 to 3.3	–
7	XSUS_MSK	O	X drive control signal	0 to 3.3	–
8	GND	–	GND	–	–
9	XNR_D	O	X drive control signal	0 to 3.3	–
10	GND	–	GND	–	–
11	XSUS_G	O	X drive control signal	0 to 3.3	–
12	GND	–	GND	–	–
13	XSUS_D	O	X drive control signal	0 to 3.3	–
14	GND	–	GND	–	–
15	XSUS_U	O	X drive control signal	0 to 3.3	–
16	GND	–	GND	–	–
17	XSUS_B	O	X drive control signal	0 to 3.3	–
18	XCN_PD	O	X drive PD signal	0 to 3.3	–

■ Pin Function

AUDIO ASSY CN3752 (A2) ↔ MAIN ASSY CN4007 (M9)

Pin No.	Pin Name	I/O	Function	Remarks
1	A_NG_B	O	DC detection, disconnection of cable detection	L : Abnormal, H : Normal
2	GND	–	GND for small signal	–
3	AUDIO_L	I	Small signal L ch	–
4	GND	–	GND for small signal	–
5	AUDIO_R	I	Small signal R ch	–
6	GND	–	GND for small signal	–
7	A_STBY_B	I	MUTE ON/OFF signal for LA4625 IC internal circuit	L : Standby, H : ON
8	A_MUTE	I	MUTE ON/OFF signal for LA4625 IC external circuit	L : MUTE OFF, H : MUTE
9	SCL_AU	I	CLK of I2C for NJW1183GK1 IC	–
10	SDA_AU	I/O	DATA of I2C for NJW1183GK1 IC	–
11	PSW_A	I	ON/OFF switch for 12 V regulator IC	L : OFF, H : ON

AUDIO ASSY CN3751 (A1) ↔ POWER SUPPLY UNIT (P5)

Pin No.	Pin Name	I/O	Function	Remarks
1	+16.5V	–	Power supply (16.5 V) for LA4625 IC	–
2	GND_D	–	Return GND for LA4625 IC	–
3	GND_D	–	Return GND for LA4625 IC	–

AUDIO ASSY CN3753 (A3) ↔ SP TERMINAL ASSY CN3901 (SP1)

Pin No.	Pin Name	I/O	Function	Remarks
1	RH+	O	Tweeter output R+	–
2	RL+	O	Woofer output R+ (Speaker output R+)	–
3	RH–	O	Tweeter output R–	–
4	RL–	O	Woofer output R– (Speaker output R–)	–
5	LL+	O	Woofer output L+ (Speaker output L+)	–
6	LH+	O	Tweeter output L+	–
7	LL–	O	Woofer output L– (Speaker output L–)	–
8	LH–	O	Tweeter output L–	–

SIDE KEY ASSY CN9501 (SW1) ↔ MAIN ASSY CN4010 (M8)

Pin No.	Pin Name	I/O	Function	Remarks
1	GND	–	GND	–
2	KEY_AD2	O	KEY voltage 2	–
3	KEY_AD1	O	KEY voltage 1	–
4	V+3.3V_STB	–	Standby 3.3 V power supply	–

50 LED ASSY CN9651 (L1) ↔ MAIN ASSY CN4006 (M5)

Pin No.	Pin Name	I/O	Function	Remarks
1	LED–	–	LED signal return	–
2	LED_ON	I	LED control for power ON	H : LED_ON, L : LED_OFF
3	LED_OFF	I	LED control for standby	H : LED_ON, L : LED_OFF

LED IR ASSY CN9701 (RE1) ↔ MAIN ASSY CN4010 (M8)

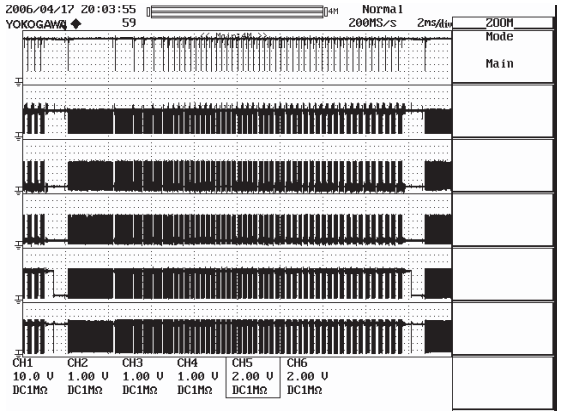
Pin No.	Pin Name	I/O	Function	Remarks
1	V+5.1V_STB	–	Standby 5.1 V power supply	–
2	REM	O	Remote control signal	–
3	LED–	–	LED signal return	–
4	LED_REC	I	LED control for REC	H : LED_ON, L : LED_OFF
5	LED_MDM	I	–	–
6	GND	–	GND	–

4.18 WAVEFORMS

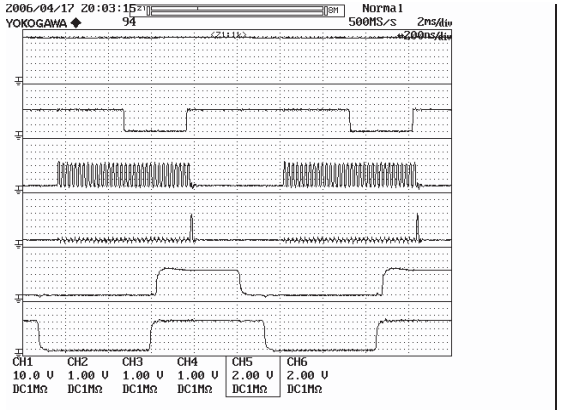
50 ADDRESS L Assy Waveform

	Measuring CH	Waveform	Measuring Point	Waveform	Measuring Point	
①	CH1	Resonance waveform (V+ADR	L1730	Resonance waveform (V+ADR	L1730	
②	CH2	R ch signal	R1608	R ch signal	R1608	
③	CH3	CLK	R1637	CLK	R1637	
④	CH4	LE	R1621	LE	R1621	
⑤	CH5	ADR-D	R1720	HBLK	R1615	⑧
⑥	CH6	ADR-B	R1714	–	–	
	CH7	–	–	LBLK	R1616	⑦

Color-Bar (MKSS17)

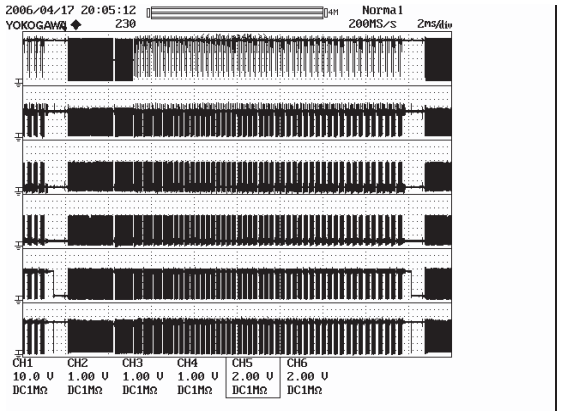


2ms/div



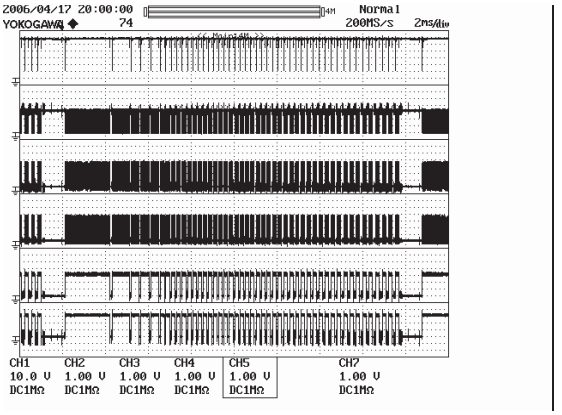
200ns/div

B/W Checkered pattern (MKSS14)

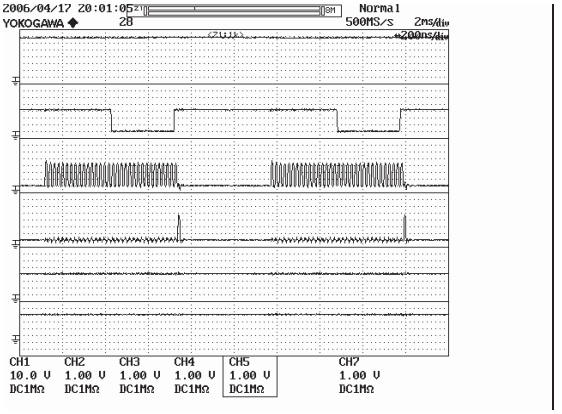


2ms/div

Color-Bar (MKSS17)

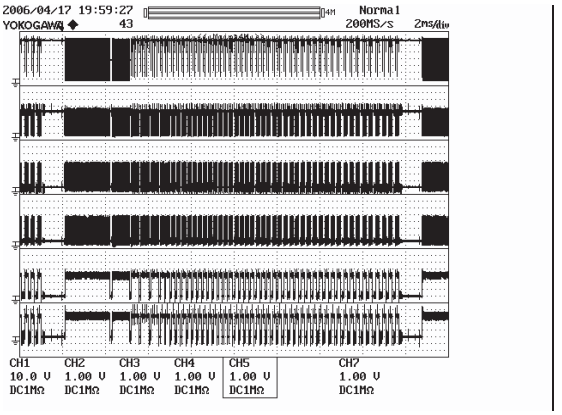


2ms/div

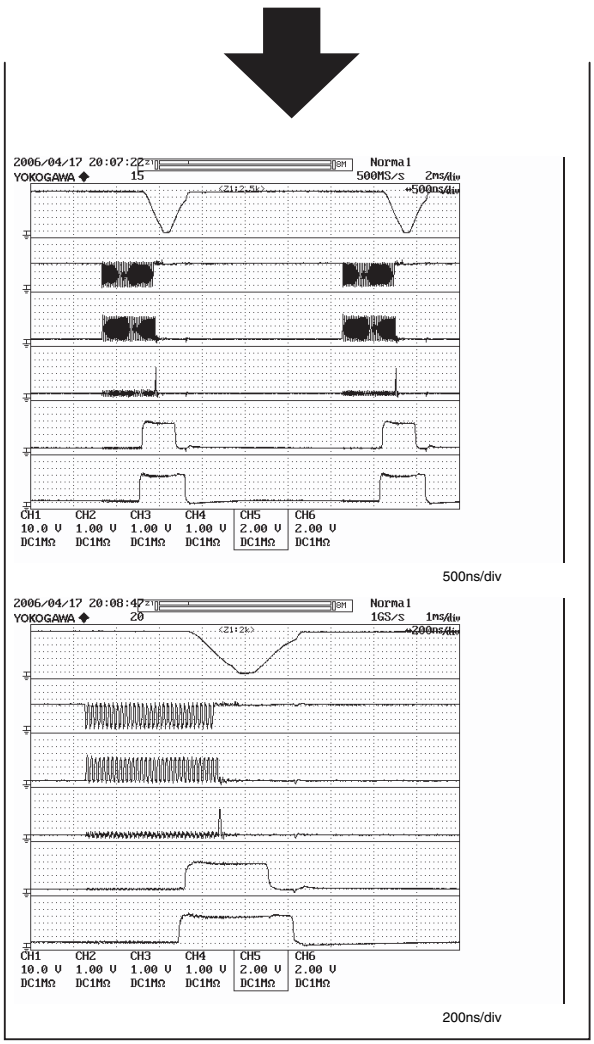


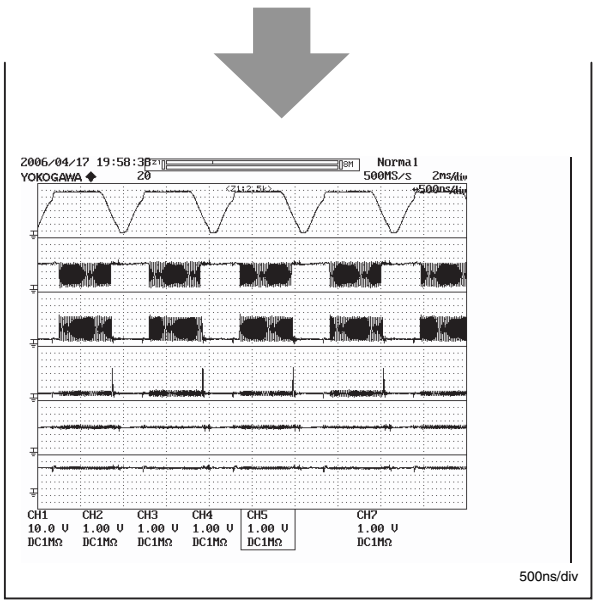
200ns/div

B/W Checkered pattern (MKSS14)

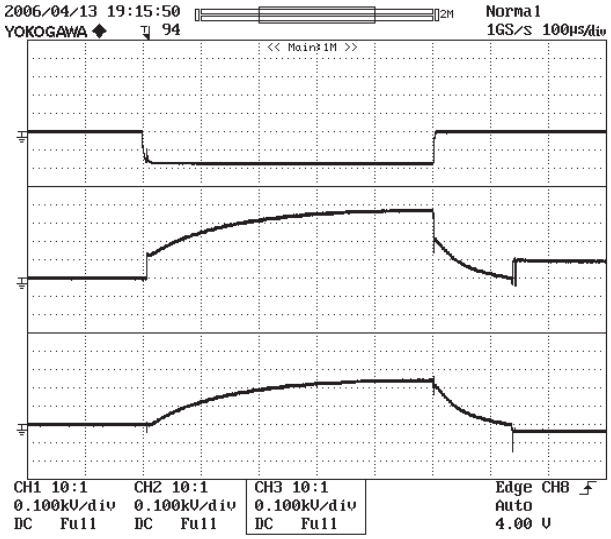


2ms/div

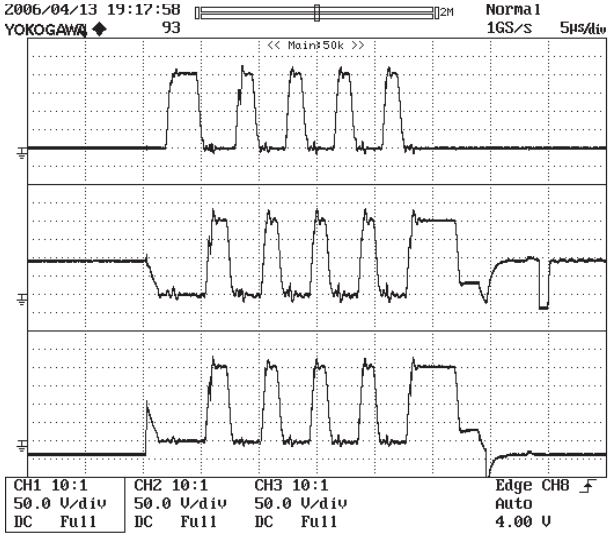

2006/04/17 20:07:22
YOKOGAWA
Normal
500MS/s
CH1 CH2 CH3 CH4 CH5 CH6
10.0 V 1.00 V 1.00 V 1.00 V 2.00 V 2.00 V
DC1MΩ DC1MΩ DC1MΩ DC1MΩ DC1MΩ DC1MΩ
500ns/div
2006/04/17 20:08:47
YOKOGAWA
Normal
1GS/s
CH1 CH2 CH3 CH4 CH5 CH6
10.0 V 1.00 V 1.00 V 1.00 V 2.00 V 2.00 V
DC1MΩ DC1MΩ DC1MΩ DC1MΩ DC1MΩ DC1MΩ
200ns/div


2006/04/17 19:58:3
YOKOGAWA
Normal
500MS/s
CH1 CH2 CH3 CH4 CH5 CH7
10.0 V 1.00 V 1.00 V 1.00 V 1.00 V 1.00 V
DC1MΩ DC1MΩ DC1MΩ DC1MΩ DC1MΩ DC1MΩ
500ns/div

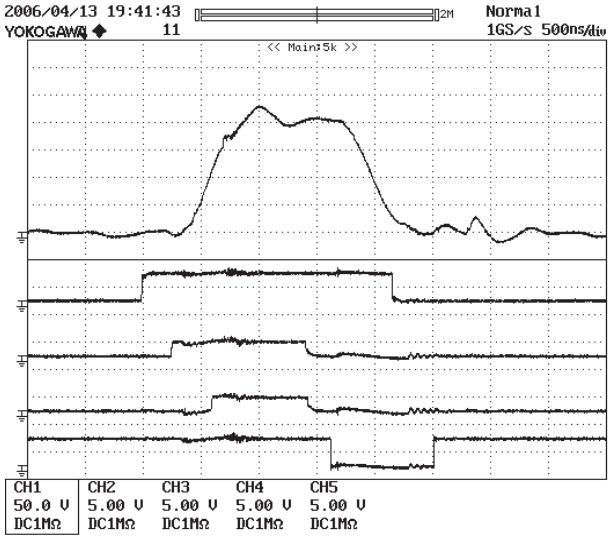
50 X/Y DRIVE Assy Waveform



⑨	CH1	R1248 (XPSUS) V:100 V/div	-K1202(SUSGND) H:100 uS/div (X drive Assy)
⑩	CH2	K2901 (ScanOUT) V:100 V/div	-K2701(SUSGND) H:100 uS/div (Y drive Assy)
⑪	CH3	F2207 (YPSUS) V:100 V/div	-K2203(SUSGND) H:100 uS/div (Y drive Assy)

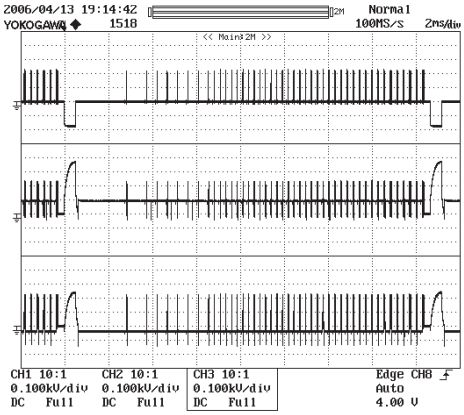


⑫	CH1	R1248 (XPSUS) V:50 V/div	-K1202(SUSGND) H:5 uS/div (X drive Assy)
⑬	CH2	K2901 (ScanOUT) V:50 V/div	-K2701(SUSGND) H:5 uS/div (Y drive Assy)
⑭	CH3	F2207 (YPSUS) V:50 V/div	-K2203(SUSGND) H:5 uS/div (Y drive Assy)



⑮	CH1	F2207 (YPSUS) V:100 V/div	-K2203(SUSGND) H:500 nS/div (Y drive Assy)
⑯	CH2	K2021 (YSUS_G) V:5 V/div	-K2014(GND) H:500 nS/div (Y drive Assy)
⑰	CH3	K2009 (YSUS_U) V:5 V/div	-K2014(GND) H:500 nS/div (Y drive Assy)
⑱	CH4	K2013 (YSUS_B) V:5 V/div	-K2014(GND) H:500 nS/div (Y drive Assy)
⑲	CH5	K2010 (YSUS_D) V:5 V/div	-K2014(GND) H:500 nS/div (Y drive Assy)

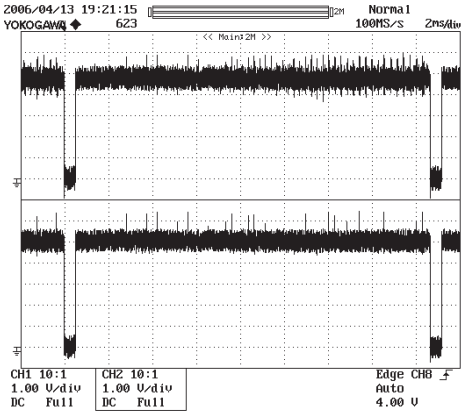
50 X/Y DRIVE Assy Waveform



⑳ CH1 R1248 (XPSUS) -K1202(SUSGND) V:100V/div H:2mS/div (X drive Assy)

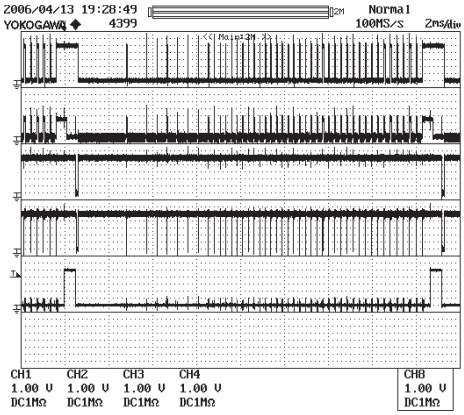
㉑ CH2 K2901 (ScanOUT) -K2701(SUSGND) V:100V/div H:2mS/div (Y drive Assy)

㉒ CH3 F2207 (YPSUS) -K2203(SUSGND) V:100V/div H:2mS/div (Y drive Assy)



㉓ CH1 K1013 (XSUS_MSK)-K1004(GND) V:1V/div H:2mS/div (X drive Assy)

㉔ CH2 K1007 (XNR-D) -K1004(GND) V:1V/div H:2mS/div (X drive Assy)



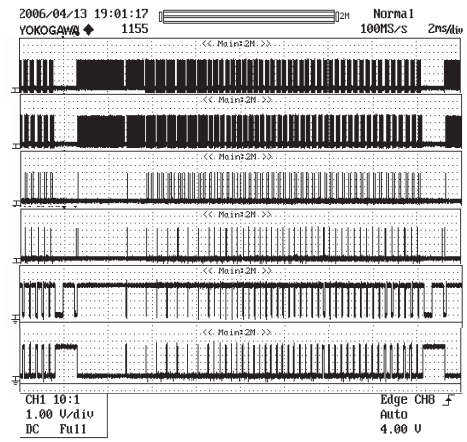
㉕ CH1 K2007 (YNOFS) -K2014(GND) V:1V/div H:2mS/div (Y drive Assy)

㉖ CH2 K2007 (YSUS_MSK)-K2014(GND) V:1V/div H:2mS/div (Y drive Assy)

㉗ CH3 K2008 (YNRST) -K2014(GND) V:1V/div H:2mS/div (Y drive Assy)

㉘ CH4 K2006 (SOFT-D) -K2014(GND) V:1V/div H:2mS/div (Y drive Assy)

㉙ CH5 K2011 (YPR-U) -K2014(GND) V:1V/div H:2mS/div (Y drive Assy)



㉚ CH1 IC2001 18(LE) -K2014GND) V:1V/div H:2mS/div (Y drive Assy)

㉛ CH2 IC2001 17 (CLK) -K2014(GND) V:1V/div H:2mS/div (Y drive Assy)

㉜ CH3 IC2001 16 (SI_H) -K2014(GND) V:1V/div H:2mS/div (Y drive Assy)

㉝ CH4 IC2001 15 (CLR) -K2014(GND) V:1V/div H:2mS/div (Y drive Assy)

㉞ CH5 IC2001 14 (OC2) -K2014(GND) V:1V/div H:2mS/div (Y drive Assy)

㉟ CH5 IC2001 13 (OC1) -K2014(GND) V:1V/div H:2mS/div (Y drive Assy)

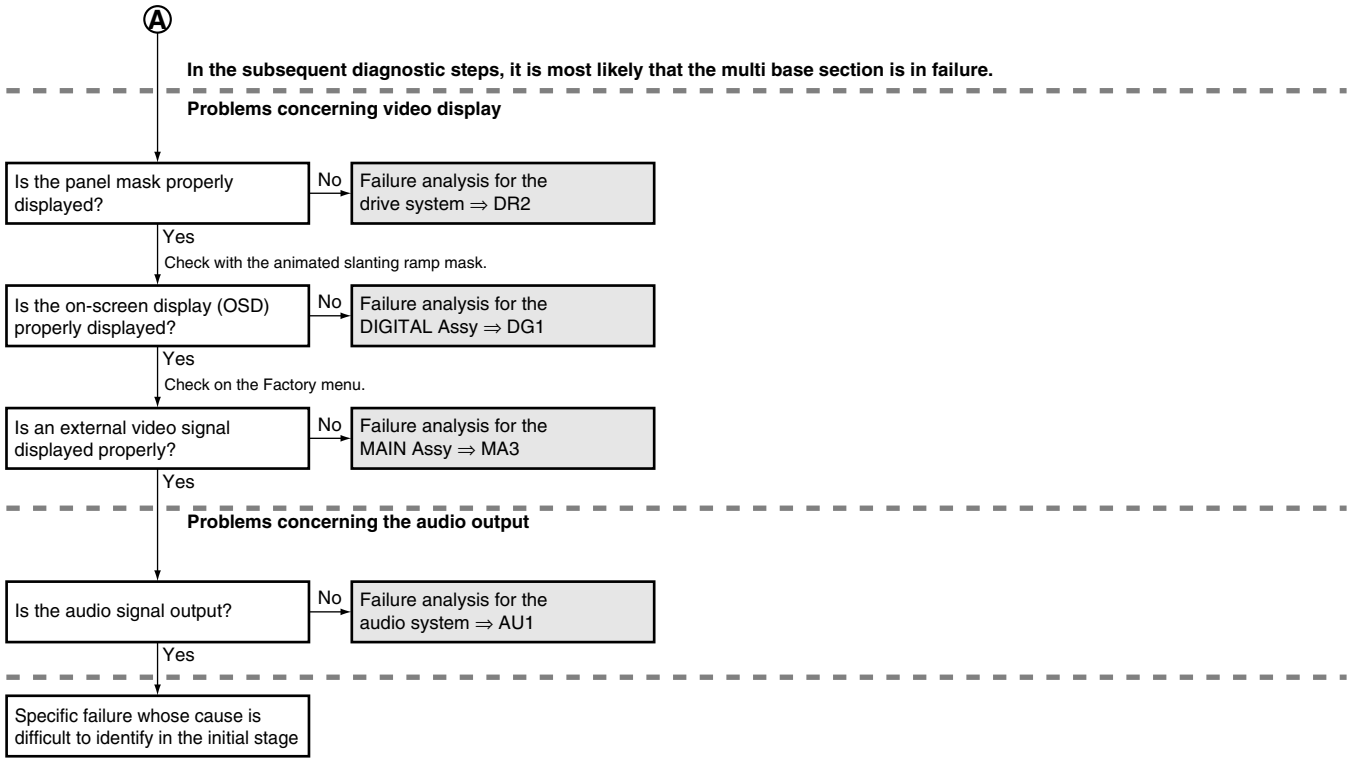
5. DIAGNOSIS INFORMATION

5.1 THE FLOW OF DIAGNOSIS

5.1.1 FLOWCHART OF FAILURE ANALYSIS FOR THE WHOLE UNIT

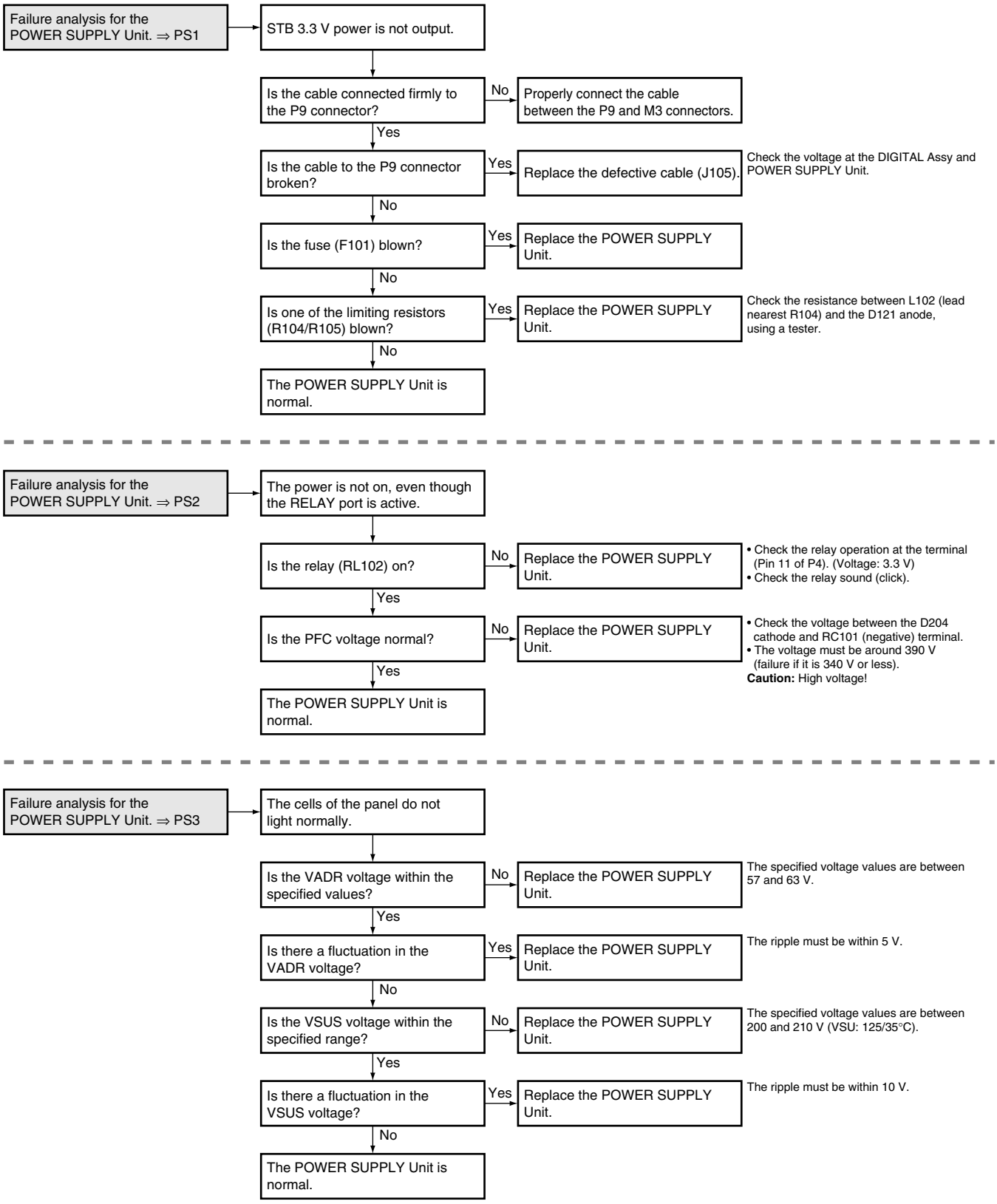
Flowchart of Failure Analysis for The Whole Unit

START
Problems concerning STB status
Is the STB LED lit?
No
Is STB 3.3 V power supplied? (Check the power at the IF micro-computer on the MAIN Assy.)
No
Check if the cable that connects the POWER SUPPLY and MAIN Assys is firmly connected.
NG
Failure analysis for the POWER SUPPLY Unit. ⇒ PS1
Yes
Yes
The blue LED on the DIGITAL Assy indicates ON/STB of the panel and causes for a power-down or shutdown. If neither the blue nor red LED lights, it is likely that the power to the STB system is not supplied. (failure, PASV-STB status)
Is the voltage at AC_DET on the POWER SUPPLY Unit high?
No
Replace the POWER SUPPLY Unit.
Yes
Failure analysis for the MAIN Assy. ⇒ MA1
Problems concerning the power
Can the unit be turned on (Relay ON)?
No
Is the power shutdown?
No
Is the voltage at the RELAY port of the connectors between the DIGITAL and POWER SUPPLY Assys H (3.3 V)?
No
Failure analysis for the MAIN Assy. ⇒ MA2
If the module microcomputer does not receive the PON command, it is likely that the main microcomputer did not issue the command.
Yes
Yes
Yes
Failure analysis for the POWER SUPPLY Unit. ⇒ PS2
A shutdown occurs.
Yes
See "Shutdown diagnosis." ⇒ SD
No
A power-down occurs.
Yes
See "Power-down diagnosis." ⇒ PD
A power-down will not be generated if the drive is off.
No
Problems concerning lighting of the panel
Does the screen display reset lighting?
No
Is the drive off?
Yes
Turn the drive on.
• Check the DRF SW.
• Before turning the drive off with the RS-232C commands or using the remote control unit, turn the unit off.
Yes
No
Failure analysis for the drive system ⇒ DR1
Is the panel arbitrary turned on or off repeatedly? Or do luminescent spots appear on the screen?
Yes
Failure analysis for the POWER SUPPLY Unit. ⇒ PS3
In a case where luminescent spots appear or the panel is repeatedly turned on or off
Yes
Failure analysis for the drive system ⇒ DR2
In a case where luminescent spots appear
No
Is there any local abnormality on the screen?
Yes
Is the abnormality associated with one address or one TCP?
No
Is the abnormality associated with a single scan line?
No
Replace the panel chassis.
Yes
Yes
Yes
Failure analysis for the drive system ⇒ DR3
Failure analysis for the drive system ⇒ DR4
No
Ⓐ


Ⓐ
In the subsequent diagnostic steps, it is most likely that the multi base section is in failure.
Problems concerning video display
Is the panel mask properly displayed?
No
Failure analysis for the drive system ⇒ DR2
Yes
Check with the animated slanting ramp mask.
Is the on-screen display (OSD) properly displayed?
No
Failure analysis for the DIGITAL Assy ⇒ DG1
Yes
Check on the Factory menu.
Is an external video signal displayed properly?
No
Failure analysis for the MAIN Assy ⇒ MA3
Yes
Problems concerning the audio output
Is the audio signal output?
No
Failure analysis for the audio system ⇒ AU1
Yes
Specific failure whose cause is difficult to identify in the initial stage

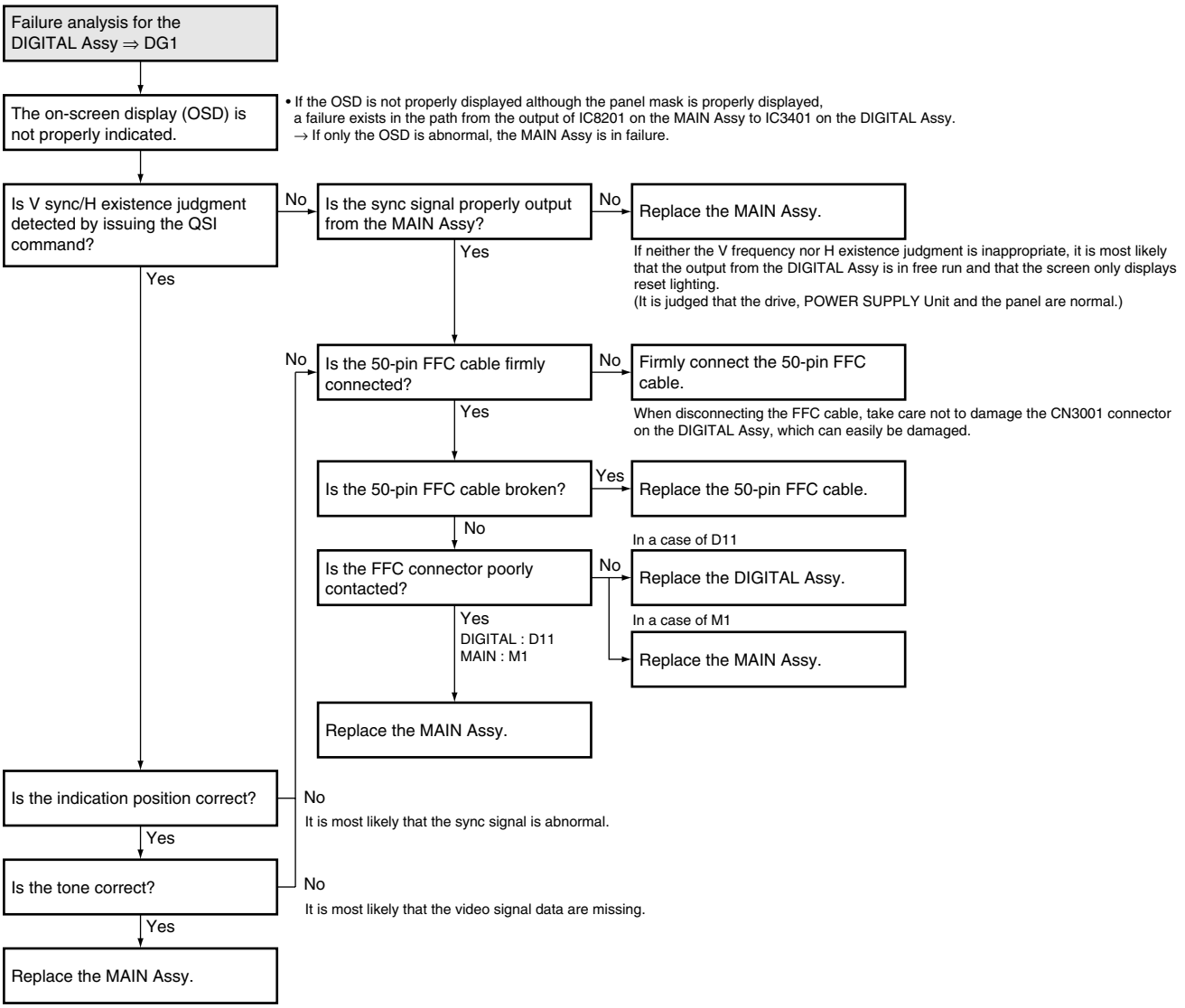
5.1.2 FLOWCHART OF FAILURE ANALYSIS FOR THE POWER SUPPLY UNIT

Flowchart of Failure Analysis for The POWER SUPPLY Unit


Failure analysis for the POWER SUPPLY Unit. ⇒ PS1
STB 3.3 V power is not output.
Is the cable connected firmly to the P9 connector?
No
Properly connect the cable between the P9 and M3 connectors.
Yes
Is the cable to the P9 connector broken?
Yes
Replace the defective cable (J105).
Check the voltage at the DIGITAL Assy and POWER SUPPLY Unit.
No
Is the fuse (F101) blown?
Yes
Replace the POWER SUPPLY Unit.
No
Is one of the limiting resistors (R104/R105) blown?
Yes
Replace the POWER SUPPLY Unit.
Check the resistance between L102 (lead nearest R104) and the D121 anode, using a tester.
No
The POWER SUPPLY Unit is normal.
Failure analysis for the POWER SUPPLY Unit. ⇒ PS2
The power is not on, even though the RELAY port is active.
Is the relay (RL102) on?
No
Replace the POWER SUPPLY Unit.
• Check the relay operation at the terminal (Pin 11 of P4). (Voltage: 3.3 V)
• Check the relay sound (click).
Yes
Is the PFC voltage normal?
No
Replace the POWER SUPPLY Unit.
• Check the voltage between the D204 cathode and RC101 (negative) terminal.
• The voltage must be around 390 V (failure if it is 340 V or less).
Caution: High voltage!
Yes
The POWER SUPPLY Unit is normal.
Failure analysis for the POWER SUPPLY Unit. ⇒ PS3
The cells of the panel do not light normally.
Is the VADR voltage within the specified values?
No
Replace the POWER SUPPLY Unit.
The specified voltage values are between 57 and 63 V.
Yes
Is there a fluctuation in the VADR voltage?
Yes
Replace the POWER SUPPLY Unit.
The ripple must be within 5 V.
No
Is the VSUS voltage within the specified range?
No
Replace the POWER SUPPLY Unit.
The specified voltage values are between 200 and 210 V (VSU: 125/35°C).
Yes
Is there a fluctuation in the VSUS voltage?
Yes
Replace the POWER SUPPLY Unit.
The ripple must be within 10 V.
No
The POWER SUPPLY Unit is normal.

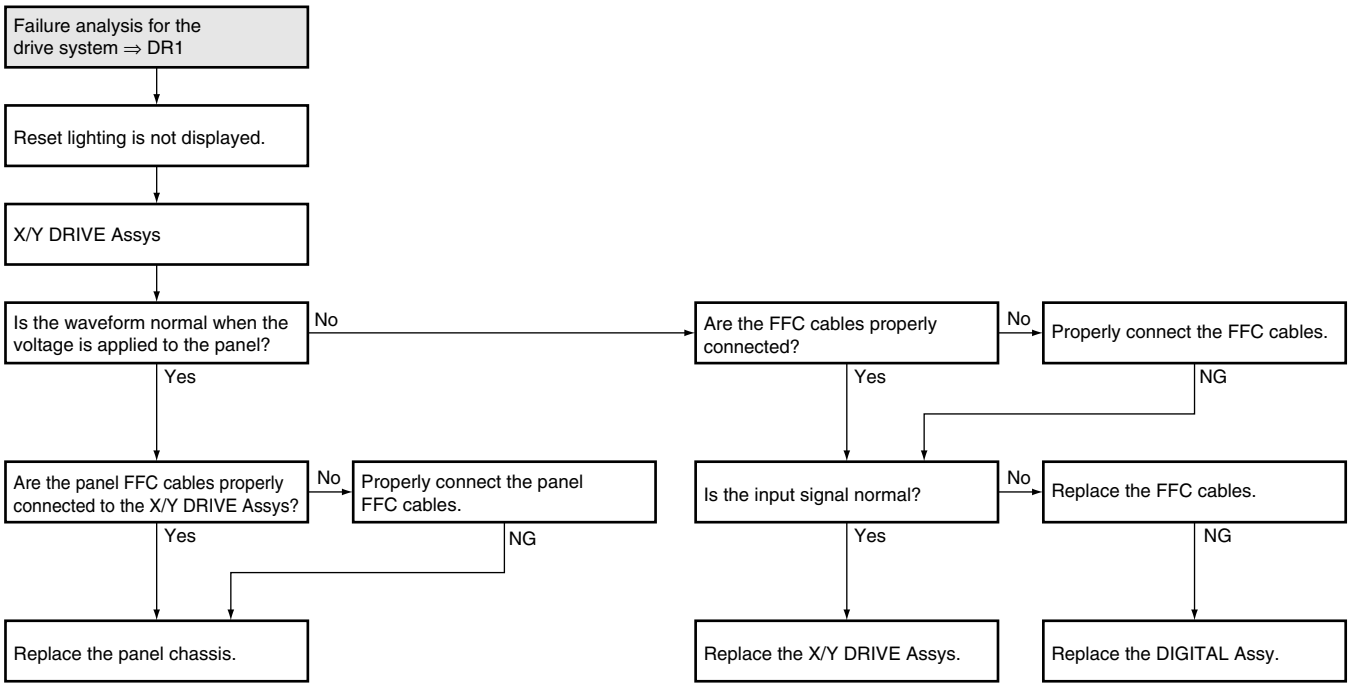
5.1.3 FLOWCHART OF FAILURE ANALYSIS FOR THE DIGITAL ASSY

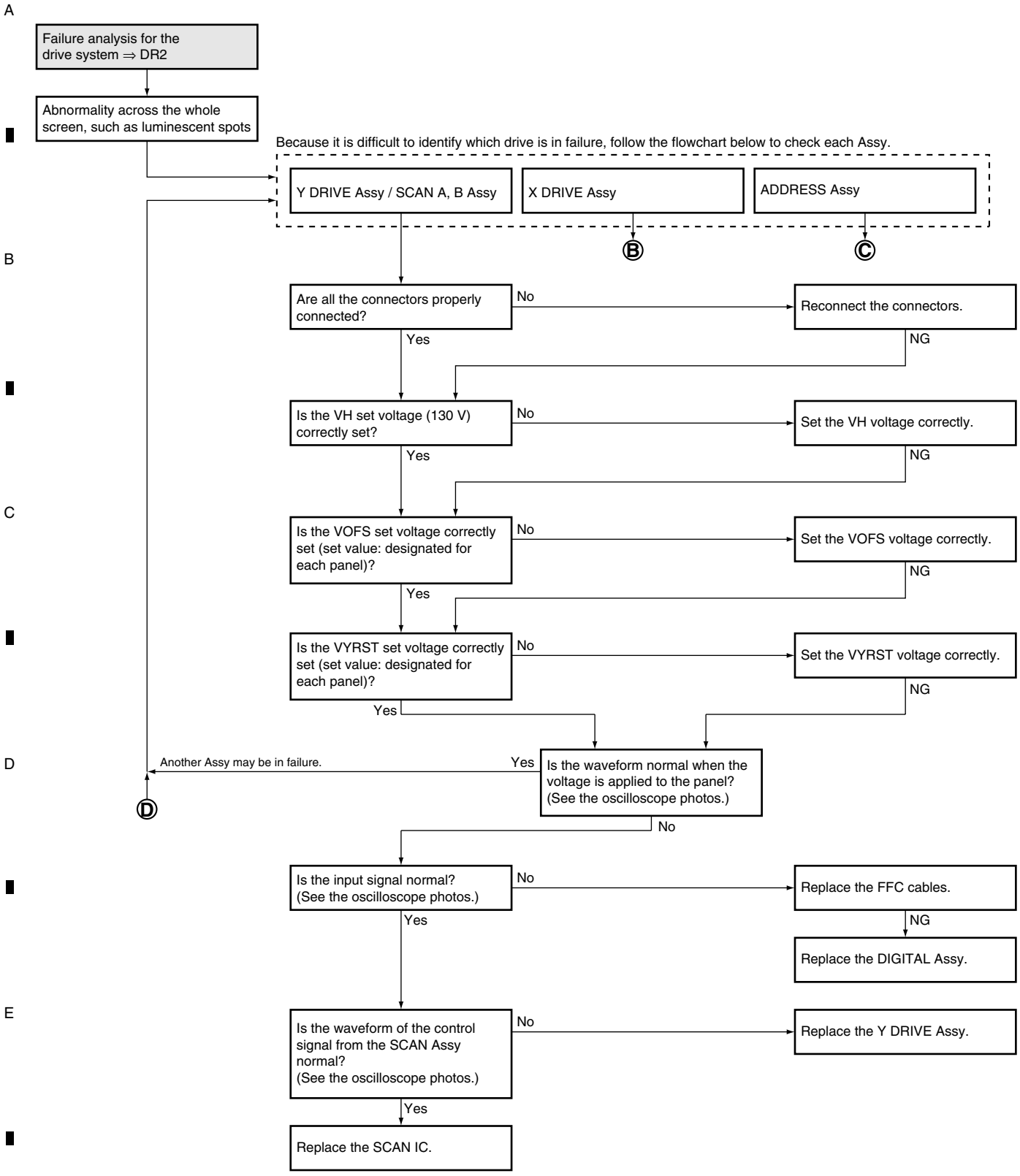
Flowchart of Failure Analysis for The DIGITAL Assy

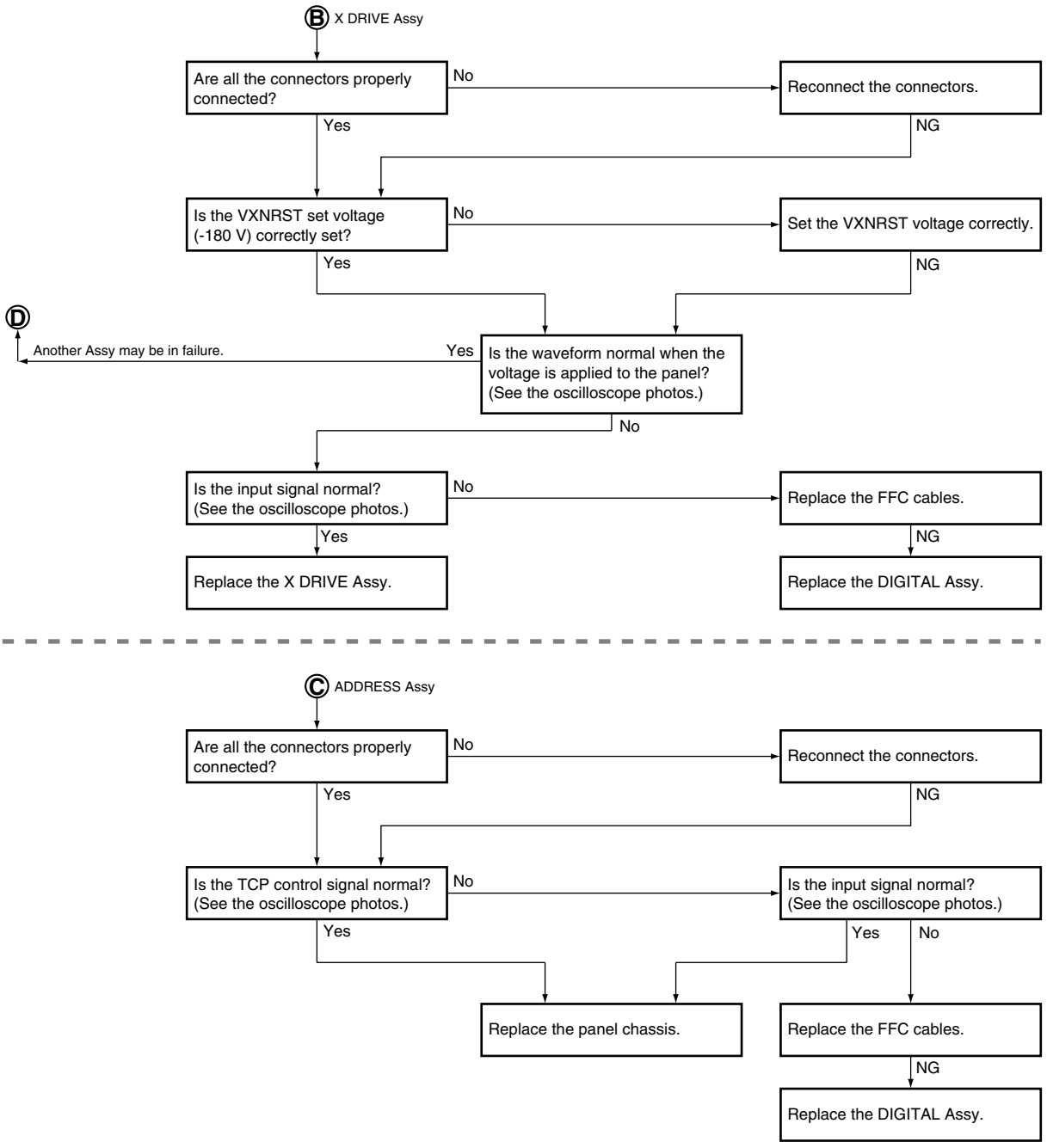

Failure analysis for the DIGITAL Assy ⇒ DG1
The on-screen display (OSD) is not properly indicated.
• If the OSD is not properly displayed although the panel mask is properly displayed, a failure exists in the path from the output of IC8201 on the MAIN Assy to IC3401 on the DIGITAL Assy.
→ If only the OSD is abnormal, the MAIN Assy is in failure.
Is V sync/H existence judgment detected by issuing the QSI command?
No
Is the sync signal properly output from the MAIN Assy?
No
Replace the MAIN Assy.
Yes
If neither the V frequency nor H existence judgment is inappropriate, it is most likely that the output from the DIGITAL Assy is in free run and that the screen only displays reset lighting.
(It is judged that the drive, POWER SUPPLY Unit and the panel are normal.)
Yes
No
Is the 50-pin FFC cable firmly connected?
No
Firmly connect the 50-pin FFC cable.
Yes
When disconnecting the FFC cable, take care not to damage the CN3001 connector on the DIGITAL Assy, which can easily be damaged.
Is the 50-pin FFC cable broken?
Yes
Replace the 50-pin FFC cable.
No
In a case of D11
Is the FFC connector poorly contacted?
No
Replace the DIGITAL Assy.
Yes
DIGITAL : D11
MAIN : M1
In a case of M1
Replace the MAIN Assy.
Replace the MAIN Assy.
Is the indication position correct?
No
It is most likely that the sync signal is abnormal.
Yes
Is the tone correct?
No
It is most likely that the video signal data are missing.
Yes
Replace the MAIN Assy.

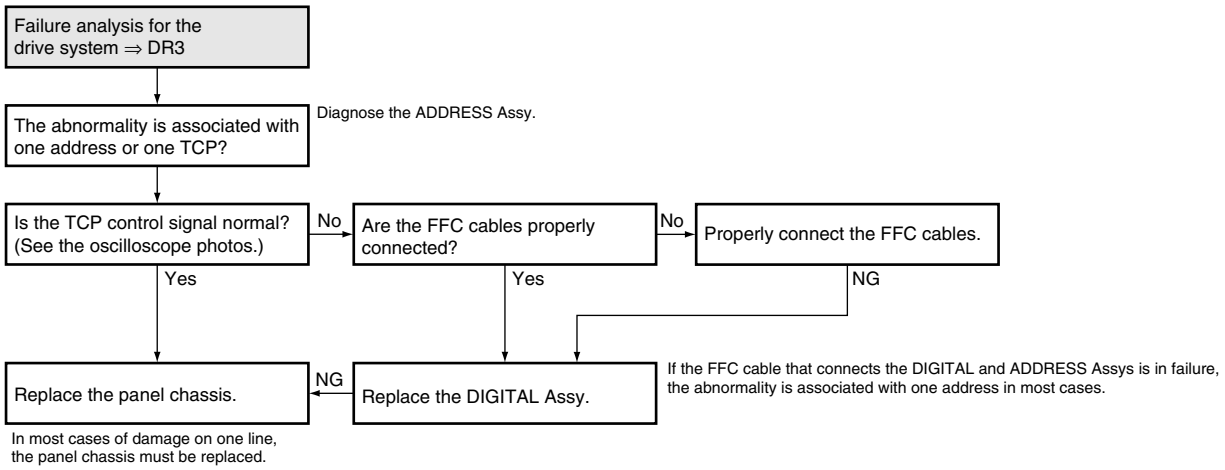
5.1.4 FLOWCHART OF FAILURE ANALYSIS FOR THE DRIVE ASSY

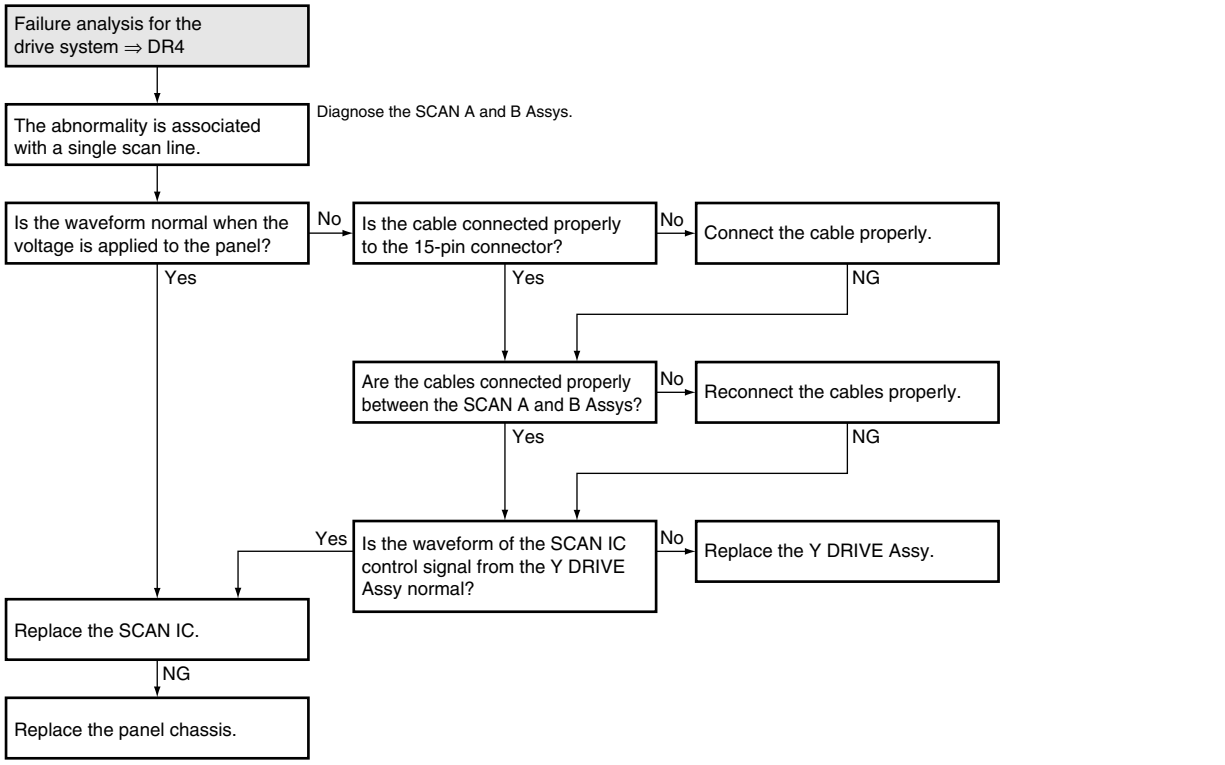
Flowchart of Failure Analysis for The Drive Assy

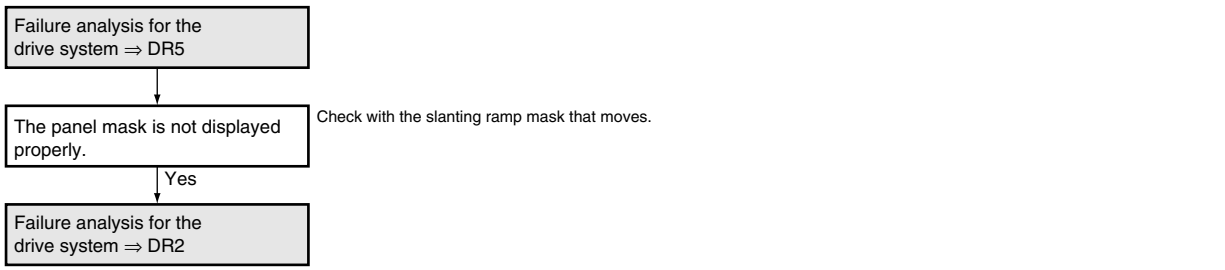



Failure analysis for the drive system ⇒ DR2
Abnormality across the whole screen, such as luminescent spots
Because it is difficult to identify which drive is in failure, follow the flowchart below to check each Assy.
Y DRIVE Assy / SCAN A, B Assy
X DRIVE Assy
ADDRESS Assy
Ⓑ
Ⓒ
Are all the connectors properly connected?
No
Reconnect the connectors.
NG
Yes
Is the VH set voltage (130 V) correctly set?
No
Set the VH voltage correctly.
NG
Yes
Is the VOFS set voltage correctly set (set value: designated for each panel)?
No
Set the VOFS voltage correctly.
NG
Yes
Is the VYRST set voltage correctly set (set value: designated for each panel)?
No
Set the VYRST voltage correctly.
NG
Yes
Another Assy may be in failure.
Yes
Is the waveform normal when the voltage is applied to the panel? (See the oscilloscope photos.)
Ⓓ
No
Is the input signal normal? (See the oscilloscope photos.)
No
Replace the FFC cables.
NG
Replace the DIGITAL Assy.
Yes
Is the waveform of the control signal from the SCAN Assy normal? (See the oscilloscope photos.)
No
Replace the Y DRIVE Assy.
Yes
Replace the SCAN IC.


Ⓑ X DRIVE Assy
Are all the connectors properly connected?
No
Reconnect the connectors.
NG
Yes
Is the VXNRST set voltage (-180 V) correctly set?
No
Set the VXNRST voltage correctly.
NG
Yes
Ⓓ
Another Assy may be in failure.
Yes
Is the waveform normal when the voltage is applied to the panel? (See the oscilloscope photos.)
No
Is the input signal normal? (See the oscilloscope photos.)
No
Replace the FFC cables.
NG
Yes
Replace the X DRIVE Assy.
Replace the DIGITAL Assy.
Ⓒ ADDRESS Assy
Are all the connectors properly connected?
No
Reconnect the connectors.
NG
Yes
Is the TCP control signal normal? (See the oscilloscope photos.)
No
Is the input signal normal? (See the oscilloscope photos.)
Yes
Yes
No
Replace the panel chassis.
Replace the FFC cables.
NG
Replace the DIGITAL Assy.

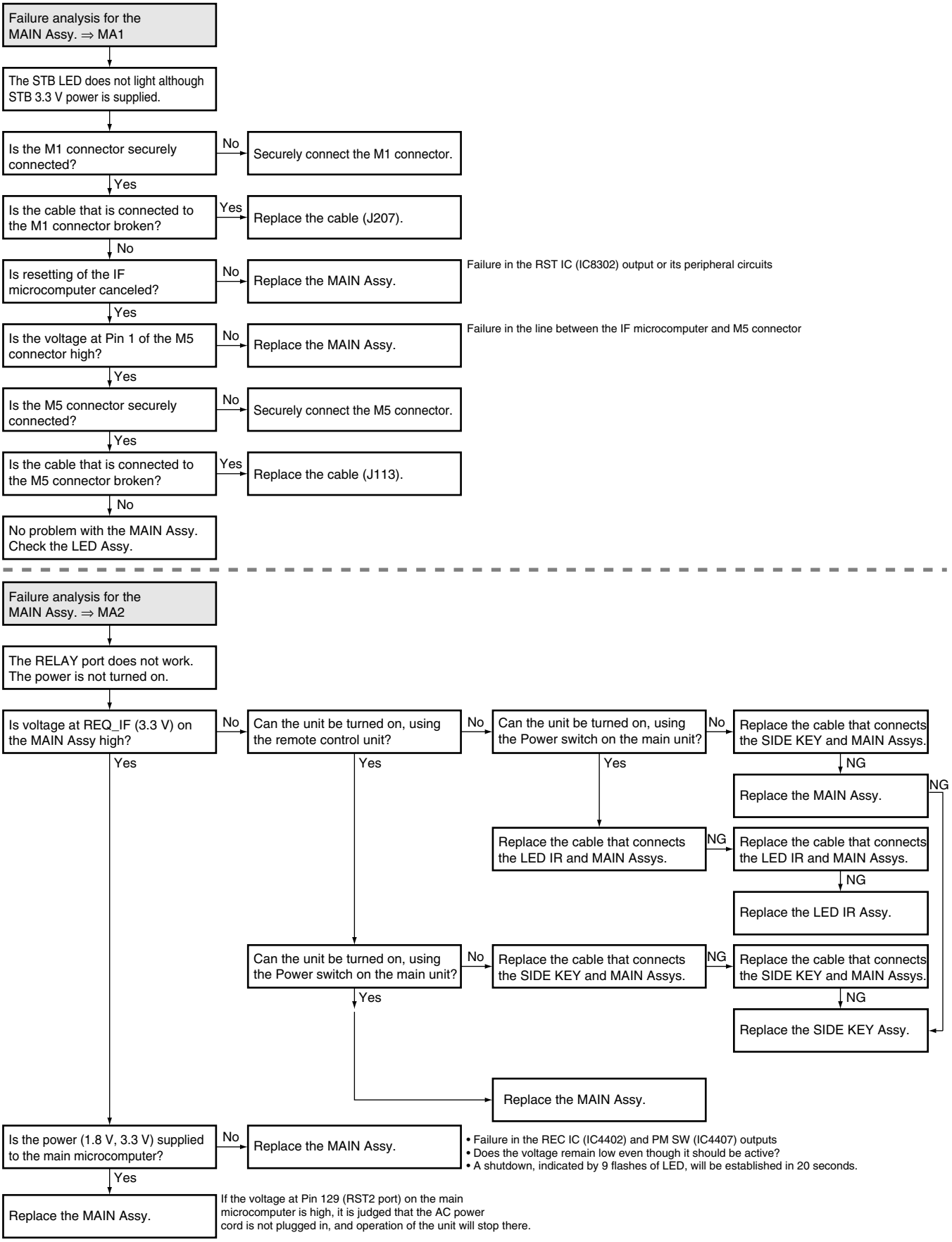

Failure analysis for the drive system ⇒ DR3
The abnormality is associated with one address or one TCP?
Diagnose the ADDRESS Assy.
Is the TCP control signal normal? (See the oscilloscope photos.)
No
Are the FFC cables properly connected?
No
Properly connect the FFC cables.
Yes
Yes
NG
Replace the panel chassis.
NG
Replace the DIGITAL Assy.
If the FFC cable that connects the DIGITAL and ADDRESS Assys is in failure, the abnormality is associated with one address in most cases.
In most cases of damage on one line, the panel chassis must be replaced.


Failure analysis for the drive system ⇒ DR4
The abnormality is associated with a single scan line.
Diagnose the SCAN A and B Assys.
Is the waveform normal when the voltage is applied to the panel?
No
Is the cable connected properly to the 15-pin connector?
No
Connect the cable properly.
Yes
Yes
NG
Are the cables connected properly between the SCAN A and B Assys?
No
Reconnect the cables properly.
Yes
NG
Yes
Is the waveform of the SCAN IC control signal from the Y DRIVE Assy normal?
No
Replace the Y DRIVE Assy.
Replace the SCAN IC.
NG
Replace the panel chassis.


Failure analysis for the drive system ⇒ DR5
The panel mask is not displayed properly.
Check with the slanting ramp mask that moves.
Yes
Failure analysis for the drive system ⇒ DR2

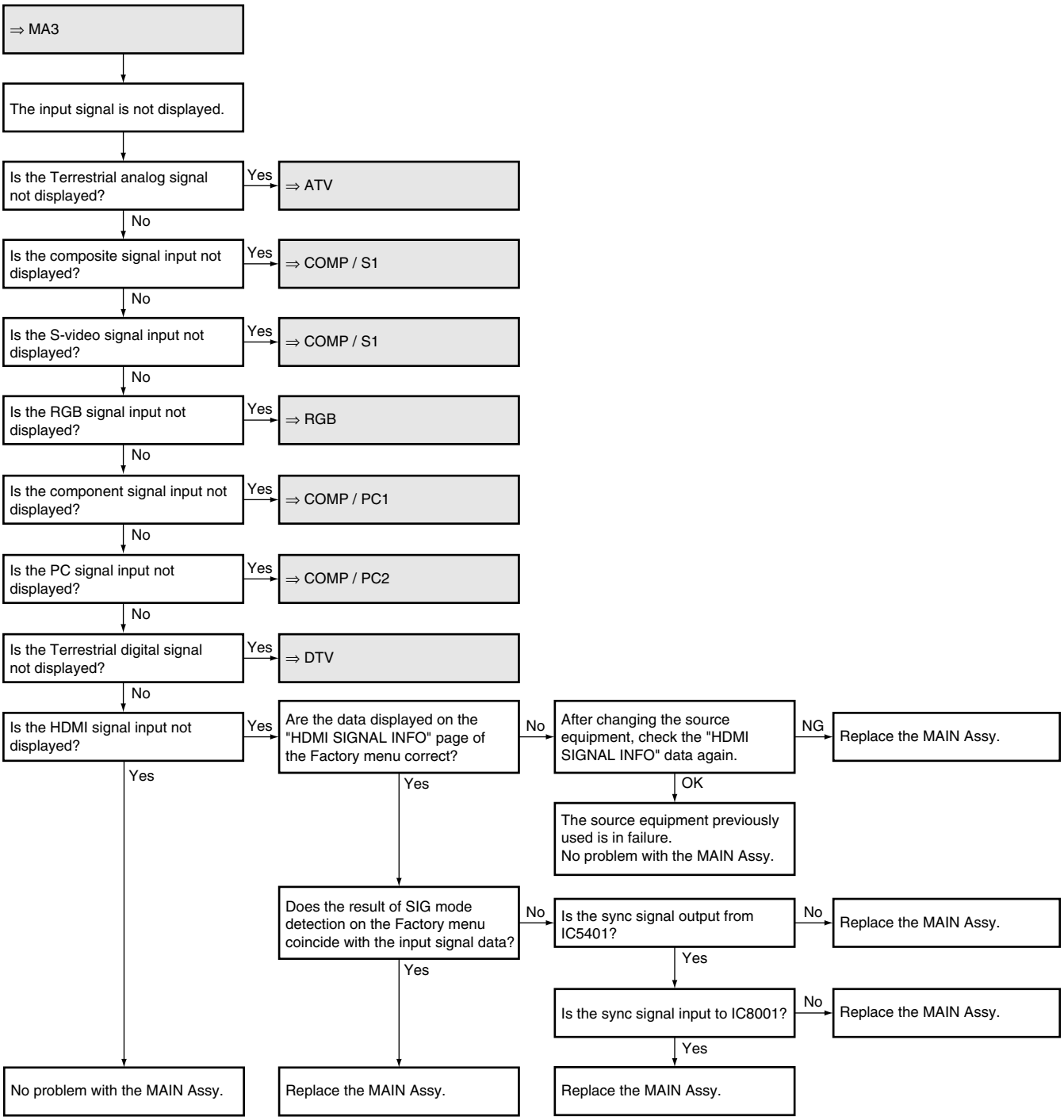
5.1.5 FLOWCHART OF FAILURE ANALYSIS FOR THE MAIN ASSY

Flowchart of Failure Analysis for The MAIN Assy

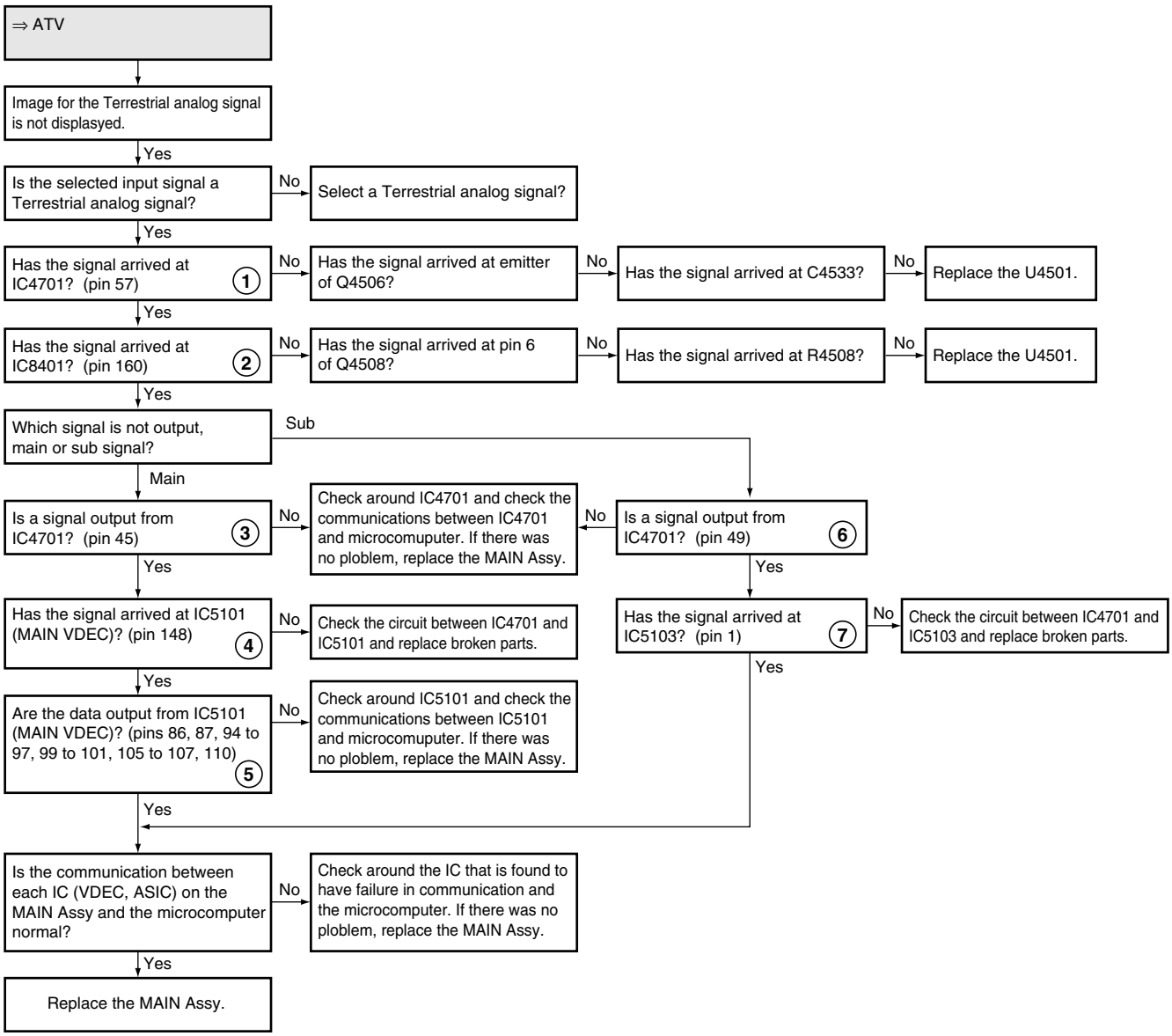

Failure analysis for the MAIN Assy. ⇒ MA1
The STB LED does not light although STB 3.3 V power is supplied.
Is the M1 connector securely connected?
No
Securely connect the M1 connector.
Yes
Is the cable that is connected to the M1 connector broken?
Yes
Replace the cable (J207).
No
Is resetting of the IF microcomputer canceled?
No
Replace the MAIN Assy.
Failure in the RST IC (IC8302) output or its peripheral circuits
Yes
Is the voltage at Pin 1 of the M5 connector high?
No
Replace the MAIN Assy.
Failure in the line between the IF microcomputer and M5 connector
Yes
Is the M5 connector securely connected?
No
Securely connect the M5 connector.
Yes
Is the cable that is connected to the M5 connector broken?
Yes
Replace the cable (J113).
No
No problem with the MAIN Assy. Check the LED Assy.
Failure analysis for the MAIN Assy. ⇒ MA2
The RELAY port does not work. The power is not turned on.
Is voltage at REQ_IF (3.3 V) on the MAIN Assy high?
No
Can the unit be turned on, using the remote control unit?
No
Can the unit be turned on, using the Power switch on the main unit?
No
Replace the cable that connects the SIDE KEY and MAIN Assys.
NG
Replace the MAIN Assy.
NG
Yes
Yes
Yes
Replace the cable that connects the LED IR and MAIN Assys.
NG
Replace the cable that connects the LED IR and MAIN Assys.
NG
Replace the LED IR Assy.
Can the unit be turned on, using the Power switch on the main unit?
No
Replace the cable that connects the SIDE KEY and MAIN Assys.
NG
Replace the cable that connects the SIDE KEY and MAIN Assys.
NG
Yes
Replace the SIDE KEY Assy.
Replace the MAIN Assy.
Is the power (1.8 V, 3.3 V) supplied to the main microcomputer?
No
Replace the MAIN Assy.
• Failure in the REC IC (IC4402) and PM SW (IC4407) outputs
• Does the voltage remain low even though it should be active?
• A shutdown, indicated by 9 flashes of LED, will be established in 20 seconds.
Yes
Replace the MAIN Assy.
If the voltage at Pin 129 (RST2 port) on the main microcomputer is high, it is judged that the AC power cord is not plugged in, and operation of the unit will stop there.

5.1.6 FLOWCHART OF FAILURE ANALYSIS FOR THE VIDEO SYSTEM

Flowchart of Failure Analysis for The Video System



Flowchart of Failure Analysis for The Video System


⇒ ATV
Image for the Terrestrial analog signal is not displasyed.
Yes
Is the selected input signal a Terrestrial analog signal?
No
Select a Terrestrial analog signal?
Yes
Has the signal arrived at IC4701? (pin 57) ①
No
Has the signal arrived at emitter of Q4506?
No
Has the signal arrived at C4533?
No
Replace the U4501.
Yes
Has the signal arrived at IC8401? (pin 160) ②
No
Has the signal arrived at pin 6 of Q4508?
No
Has the signal arrived at R4508?
No
Replace the U4501.
Yes
Which signal is not output, main or sub signal?
Sub
Main
Is a signal output from IC4701? (pin 45) ③
No
Check around IC4701 and check the communications between IC4701 and microcomuputer. If there was no ploblem, replace the MAIN Assy.
No
Is a signal output from IC4701? (pin 49) ⑥
Yes
Yes
Has the signal arrived at IC5101 (MAIN VDEC)? (pin 148) ④
No
Check the circuit between IC4701 and IC5101 and replace broken parts.
Has the signal arrived at IC5103? (pin 1) ⑦
No
Check the circuit between IC4701 and IC5103 and replace broken parts.
Yes
Yes
Are the data output from IC5101 (MAIN VDEC)? (pins 86, 87, 94 to 97, 99 to 101, 105 to 107, 110) ⑤
No
Check around IC5101 and check the communications between IC5101 and microcomuputer. If there was no ploblem, replace the MAIN Assy.
Yes
Is the communication between each IC (VDEC, ASIC) on the MAIN Assy and the microcomputer normal?
No
Check around the IC that is found to have failure in communication and the microcomputer. If there was no ploblem, replace the MAIN Assy.
Yes
Replace the MAIN Assy.

● Waveforms

Input signal: PAL Color-bar (Analog tuner)

① **IC4701 - pin 57** V: 500 mV/div H: 10 µS/div	② **IC8401 - pin 160** V: 1 V/div H: 10 µS/div	③ **IC4701 - pin 45** V: 500 mV/div H: 10 µS/div	④ **IC5101 - pin 148** V: 500 mV/div H: 10 µS/div
⑤ **IC5101 - pin 86, etc.** V: 1 V/div H: 2 µS/div	⑥ **IC7001 - pin 49** V: 500 mV/div H: 10 µS/div	⑦ **IC5103 - pin 1** V: 500 mV/div H: 10 µS/div	

Flowchart of Failure Analysis for The Video System

⇒ COMP/S1

Image for the composite or S-video signal is not displasyed.

Yes

Is the function correspondeing to selected signal input selected?

No → Select the corresponding signal with the Input selector.

Yes

Has the signal arrived at IC4701?

No → Check the flexible cable between CN8802 and CN4004.
Check the flexible cable between CN9003 and CN4005.
Check the cable between CN9001 and CN9202.
Check the cable between CN9002 and CN9205.
Check around input terminals.

No → Replace the FFCs or cables.

Yes

Which signal is not output, main or sub signal?

Sub → Is the screen of main side Analog/Digital TV?

No → Specifications that does not display in the sub-side.

Yes

Main

Is a signal output from IC4701? (pins 42 and 45) ⑧ ⑨

No → Check around IC4701 and check the communications between IC4701 and microcomuputer. If there was no ploblem, replace the MAIN Assy.

Yes

Is a signal output from IC4701? (pins 47 and 49) ⑫ ⑬

No → Is a signal output from IC4701? (pins 42 and 45) ⑧ ⑨

Yes

Has the signal arrived at IC5101? (pins 148 and 158) ⑩ ⑪

No → Check the emitter-follower circuit between IC4701 and IC5101 and repair the failure points.

Yes

Has the signal arrived at IC5103? (pins 1 and 2) ⑭ ⑮

No → Check the circuit between IC4701 and IC5103 and repair the failure points.

Yes

Is the communication between each IC (VDEC, ASIC) on the MAIN Assy and the microcomputer normal?

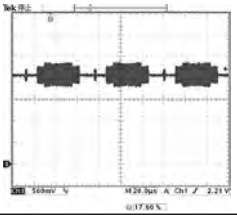
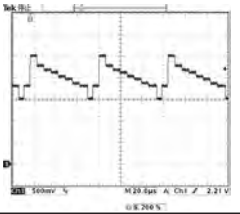
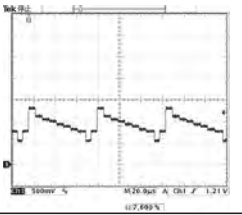
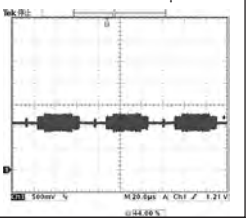
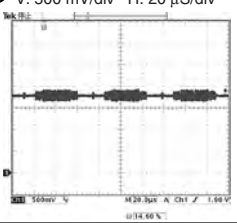
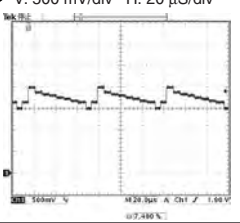
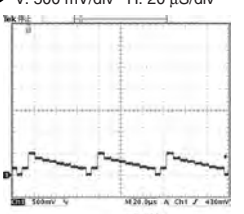
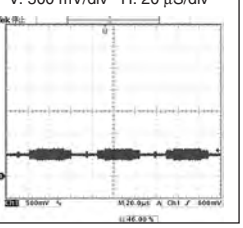
No → Check around the IC that is found to have failure in communication and the microcomputer. If there was no ploblem, replace the MAIN Assy.

Yes

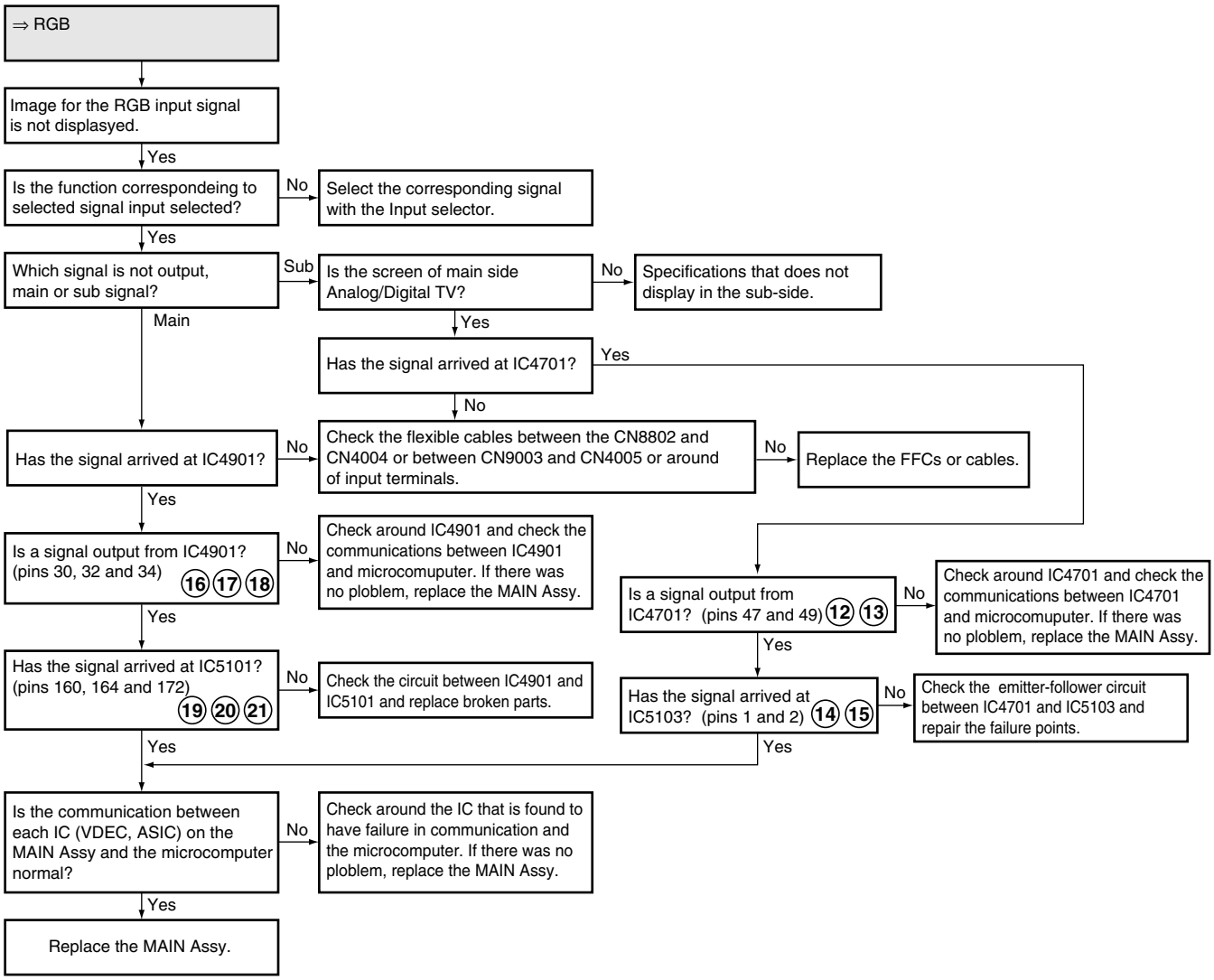
Replace the MAIN Assy.

● Waveforms

Input signal: PAL Color-bar (S terminal)

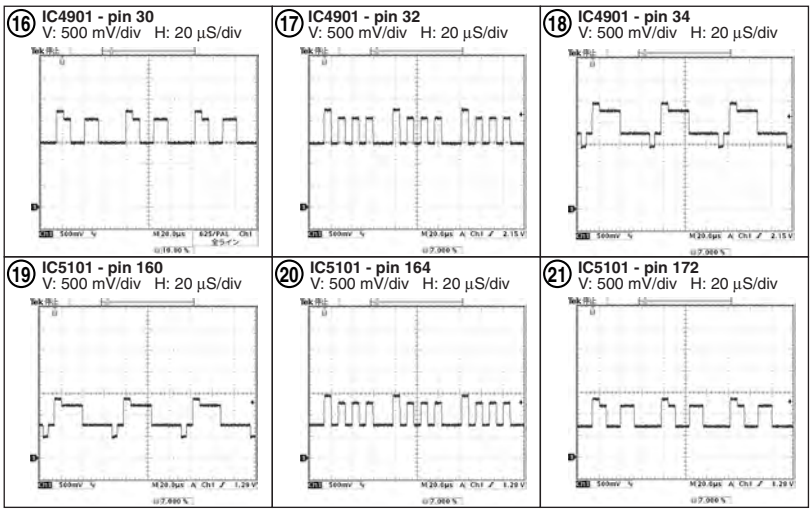
⑧ **IC4701 - pin 42** V: 500 mV/div H: 20 µS/div	⑨ **IC4701 - pin 45** V: 500 mV/div H: 20 µS/div	⑩ **IC5101 - pin 148** V: 500 mV/div H: 20 µS/div	⑪ **IC5101 - pin 158** V: 500 mV/div H: 20 µS/div
			
⑫ **IC4701 - pin 47** V: 500 mV/div H: 20 µS/div	⑬ **IC4701 - pin 49** V: 500 mV/div H: 20 µS/div	⑭ **IC5103 - pin 1** V: 500 mV/div H: 20 µS/div	⑮ **IC5103 - pin 2** V: 500 mV/div H: 20 µS/div
			

Flowchart of Failure Analysis for The Video System


⇒ RGB
Image for the RGB input signal is not displayed.
Yes
Is the function correspondeing to selected signal input selected?
No
Select the corresponding signal with the Input selector.
Yes
Which signal is not output, main or sub signal?
Sub
Is the screen of main side Analog/Digital TV?
No
Specifications that does not display in the sub-side.
Yes
Main
Has the signal arrived at IC4701?
Yes
No
Has the signal arrived at IC4901?
No
Check the flexible cables between the CN8802 and CN4004 or between CN9003 and CN4005 or around of input terminals.
No
Replace the FFCs or cables.
Yes
Is a signal output from IC4901? (pins 30, 32 and 34) 16 17 18
No
Check around IC4901 and check the communications between IC4901 and microcomuputer. If there was no ploblem, replace the MAIN Assy.
Yes
Has the signal arrived at IC5101? (pins 160, 164 and 172) 19 20 21
No
Check the circuit between IC4901 and IC5101 and replace broken parts.
Yes
Is the communication between each IC (VDEC, ASIC) on the MAIN Assy and the microcomputer normal?
No
Check around the IC that is found to have failure in communication and the microcomputer. If there was no ploblem, replace the MAIN Assy.
Yes
Replace the MAIN Assy.
Is a signal output from IC4701? (pins 47 and 49) 12 13
No
Check around IC4701 and check the communications between IC4701 and microcomuputer. If there was no ploblem, replace the MAIN Assy.
Yes
Has the signal arrived at IC5103? (pins 1 and 2) 14 15
No
Check the emitter-follower circuit between IC4701 and IC5103 and repair the failure points.
Yes

● Waveforms

Input signal: PAL Color-bar (S terminal)


16 IC4901 - pin 30
V: 500 mV/div H: 20 µS/div
17 IC4901 - pin 32
V: 500 mV/div H: 20 µS/div
18 IC4901 - pin 34
V: 500 mV/div H: 20 µS/div
19 IC5101 - pin 160
V: 500 mV/div H: 20 µS/div
20 IC5101 - pin 164
V: 500 mV/div H: 20 µS/div
21 IC5101 - pin 172
V: 500 mV/div H: 20 µS/div

Flowchart of Failure Analysis for The Video System

No video from component

⇒ COMP/PC1

Image for the component signal is not displayed.

Yes

Is the function corresponding to selected signal input selected? — No → Select the corresponding signal with the input selector.

Yes

Has the signal arrived at IC4901 ? (pins 2, 4, 6) (22) (23) (24) — No → Check the flexible cables between the CN8802 and CN4004 or between CN9003 and CN4005 or around of pin jack. — No → Replace the flexible cable.

Yes

Which signal is not output, main or sub signal? — Sub → Is the screen of main side Analog/Digital TV? — No → Specifications that does not display in the sub-side.

Main / Yes

Is a signal output from IC4901? (pins 41, 43, 45) (25) (26) (27) — No → Check around IC4901 and check the communications between IC4901 and the microcomputer. If there was no ploblem, replace the MAIN Assy.

Yes

Has the signal arrived at IC5301? (pins 43, 48, 54) (28) (29) (30) — No → Check the circuit between IC4901 and IC5301. If there was no ploblem, replace the MAIN Assy.

Yes

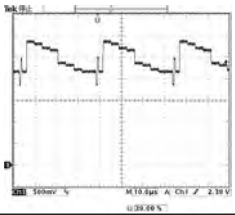
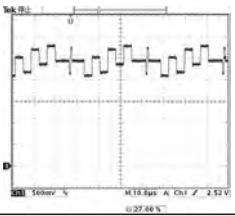
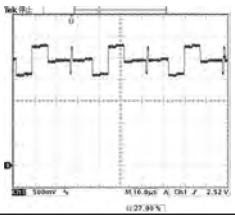
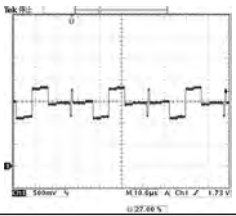
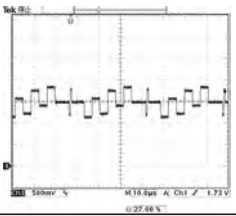
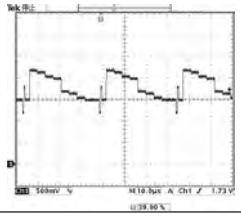
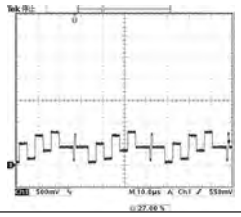
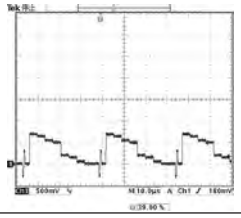
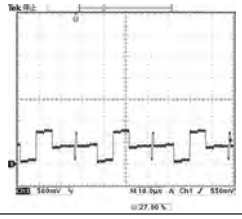
Is the communication between each IC (VDEC, ASIC) on the MAIN Assy and the microcomputer nomal? — No → Check around the IC that is found to have a failure in communication and the microcomputer. If there was no ploblem, replace the MAIN Assy.

Yes

Replace the MAIN Assy.

● Waveforms

Input signal: Color-bar (Component 1080i)

(22) **IC4901 - pin 2** V: 500 mV/div H: 10 µS/div	(23) **IC4901 - pin 4** V: 500 mV/div H: 10 µS/div	(24) **IC4901 - pin 6** V: 500 mV/div H: 10 µS/div	(25) **IC4901 - pin 41** V: 500 mV/div H: 10 µS/div	(26) **IC4901 - pin 43** V: 500 mV/div H: 10 µS/div
				
(27) **IC4901 - pin 45** V: 500 mV/div H: 10 µS/div	(28) **IC5301 - pin 43** V: 500 mV/div H: 10 µS/div	(29) **IC5301 - pin 48** V: 500 mV/div H: 10 µS/div	(30) **IC5301 - pin 54** V: 500 mV/div H: 10 µS/div	
				

Flowchart of Failure Analysis for The Video System

⇒ COMP/PC2

Image for the PC signal is not displayed.

Yes

Is the function corresponding to selected signal input selected?
- No → Select the corresponding signal with the input selector.

Yes

Has the signal arrived at IC4901 ? (pins 61, 62, 64, 66, 68) (31) (32) (33) (34) (35)
- No → Check the flexible cable between the CN9301 and CN4018 or around of jack.
  - No → Replace the flexible cable.

Yes

Which signal is not output, main or sub signal?
- Sub → Is the screen of main side Analog/Digital TV?
  - No → Specifications that does not display in the sub-side.
  - Yes
- Main

Is a signal output from IC4901? (pins 41, 43, 45) (36) (37) (38)
- No → Check around IC4901 and check the communications between IC4901 and the microcomputer. If there was no ploblem, replace the MAIN Assy.

Yes

Has the signal arrived at IC5301? (pins 43, 48, 54) (39) (40) (41)
- No → Check the circuit between IC4901 and IC5301. If there was no ploblem, replace the MAIN Assy.

Yes

Is the communication between each IC (VDEC, ASIC) on the MAIN Assy and the microcomputer nomal?
- No → Check around the IC that is found to have a failure in communication and the microcomputer. If there was no ploblem, replace the MAIN Assy.

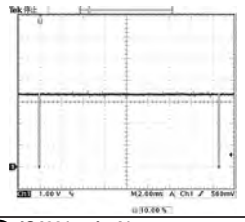
Yes

Replace the MAIN Assy.

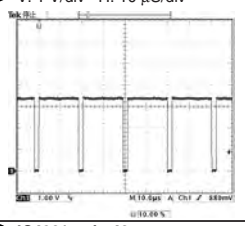
● Waveforms

Input signal: Color-bar (PC XGA/60 Hz)

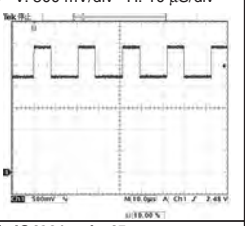
(31) **IC4901 - pin 61** V: 1 V/div H: 2 mS/div



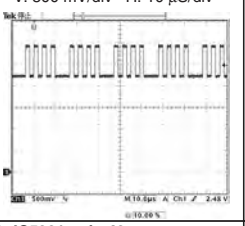
(32) **IC4901 - pin 62** V: 1 V/div H: 10 µS/div



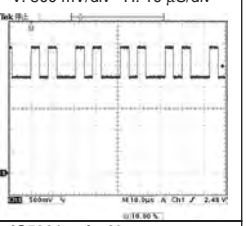
(33) **IC4901 - pin 64** V: 500 mV/div H: 10 µS/div



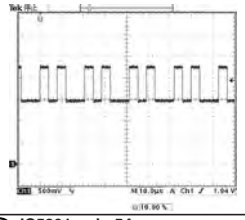
(34) **IC4901 - pin 66** V: 500 mV/div H: 10 µS/div



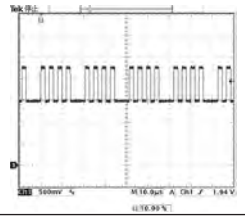
(35) **IC4901 - pin 68** V: 500 mV/div H: 10 µS/div



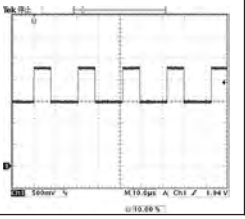
(36) **IC4901 - pin 41** V: 500 mV/div H: 10 µS/div



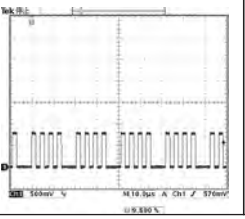
(37) **IC4901 - pin 43** V: 500 mV/div H: 10 µS/div



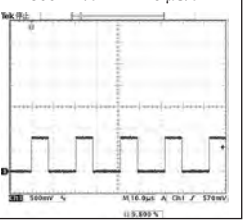
(38) **IC4901 - pin 45** V: 500 mV/div H: 10 µS/div



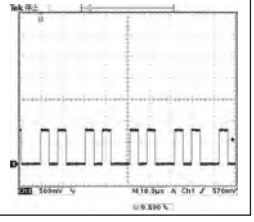
(39) **IC5301 - pin 43** V: 500 mV/div H: 10 µS/div



(40) **IC5301 - pin 48** V: 500 mV/div H: 10 µS/div

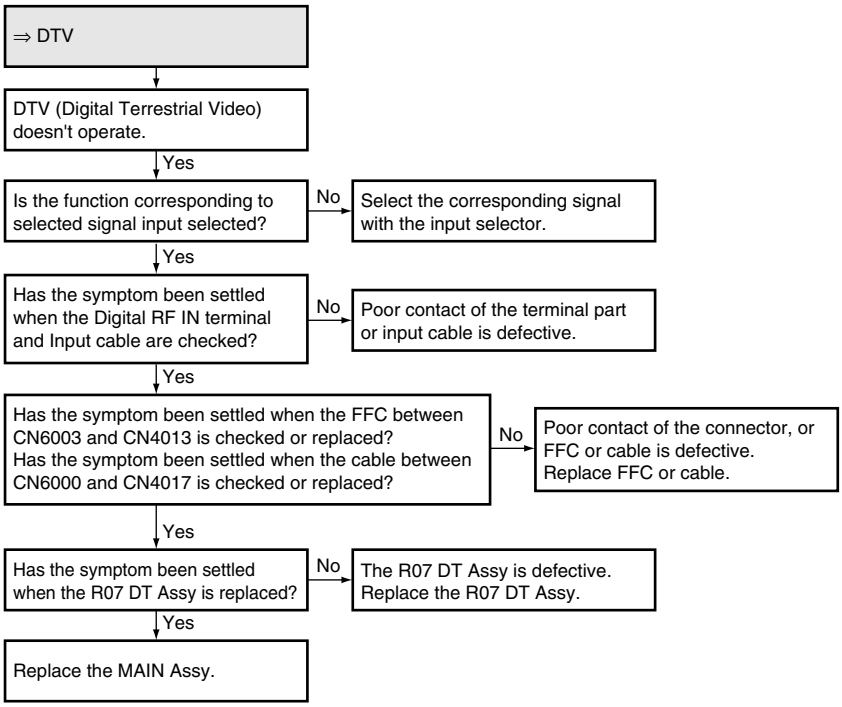


(41) **IC5301 - pin 54** V: 500 mV/div H: 10 µS/div



Flowchart of Failure Analysis for The Video System

DTV doesn't work


⇒ DTV
DTV (Digital Terrestrial Video) doesn't operate.
Yes
Is the function corresponding to selected signal input selected?
No
Select the corresponding signal with the input selector.
Yes
Has the symptom been settled when the Digital RF IN terminal and Input cable are checked?
No
Poor contact of the terminal part or input cable is defective.
Yes
Has the symptom been settled when the FFC between CN6003 and CN4013 is checked or replaced?
Has the symptom been settled when the cable between CN6000 and CN4017 is checked or replaced?
No
Poor contact of the connector, or FFC or cable is defective.
Replace FFC or cable.
Yes
Has the symptom been settled when the R07 DT Assy is replaced?
No
The R07 DT Assy is defective.
Replace the R07 DT Assy.
Yes
Replace the MAIN Assy.

5.1.7 FLOWCHART OF FAILURE ANALYSIS FOR THE AUDIO SYSTEM

Flowchart of Failure Analysis for The Audio System

No audio from monitor out

⇒ MONI_A

The sound is not emitted audio out.

Yes

Is a signal output from IC4701? (pin 33, 34) (30) — No → Check the surrounding of IC4701 and each input signal. If there was no ploblem, replace the MAIN ASSY.

Yes

Has the signal arrived at CN4005? — No → Check the communication between IC4701 and CN4005. — NG → Replace the MAIN Assy.

Yes

Is a signal output from CN8803? — No → Check the Flexible cable between CN4005 and CN8803. — NG → Replace or reconnect flexible cable.

Yes

Has the signal come to TP8825 or TP8826? — No → Check the contact between the CN8803 and R8886. Check the contact between the CN8803 and R8887. — NG → Replace the TANSHI Assy.

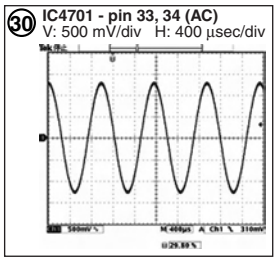
Yes

Is a signal output from jack? — No → Check the communication between the CN8803 and Jack. If there was no ploblem, replace IO Assy. — NG → Replace the TANSHI Assy.

Yes

Finishing troubleshooting.

● **Waveforms**
Input signal: 1kHz
Sound volume is fixed to 25.



No audio output from subwoofer

⇒ SUB-W

Has the sound been emitted from the Subwoofer? — No → Cansel muting then check again. — No → Cansel muting then check again.

Yes

Yes

Is the volume set to 0? — No → Raise the volume then check again.

Is a signal output from IC4701? (pin 31, 32) (31) — No → Check the around of IC4701 and each input signal. If there was no ploblem, replace the MAIN ASSY.

Yes

Is a signal output from IC4704? (pin 1, 7) (32) — No → Check around IC4704. — NG → Replace the MAIN Assy.

Yes

Has the signal arrived at CN4005? — No → Check the communication between IC4704 to CN4005. — NG → Replace the MAIN Assy.

Yes

Is a signal output from CN8803? — No → Check the Flexible cable between CN4005 and CN8803. — NG → Replace or reconnect flexible cable.

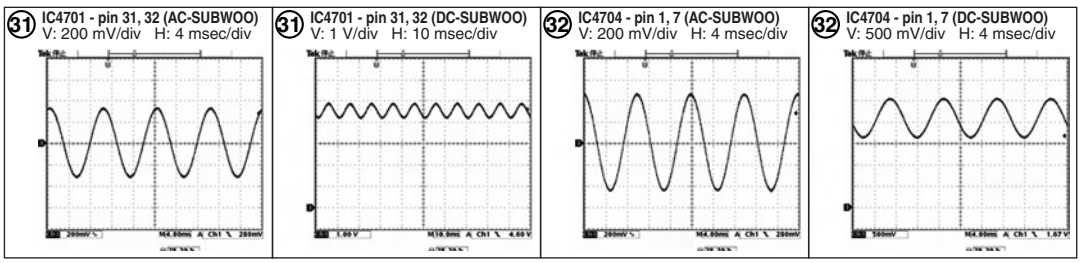
Yes

Has the signal come to TP8843? — No → Check the contact between the CN8803 and R8892. — NG → Replace the TANSHI Assy.

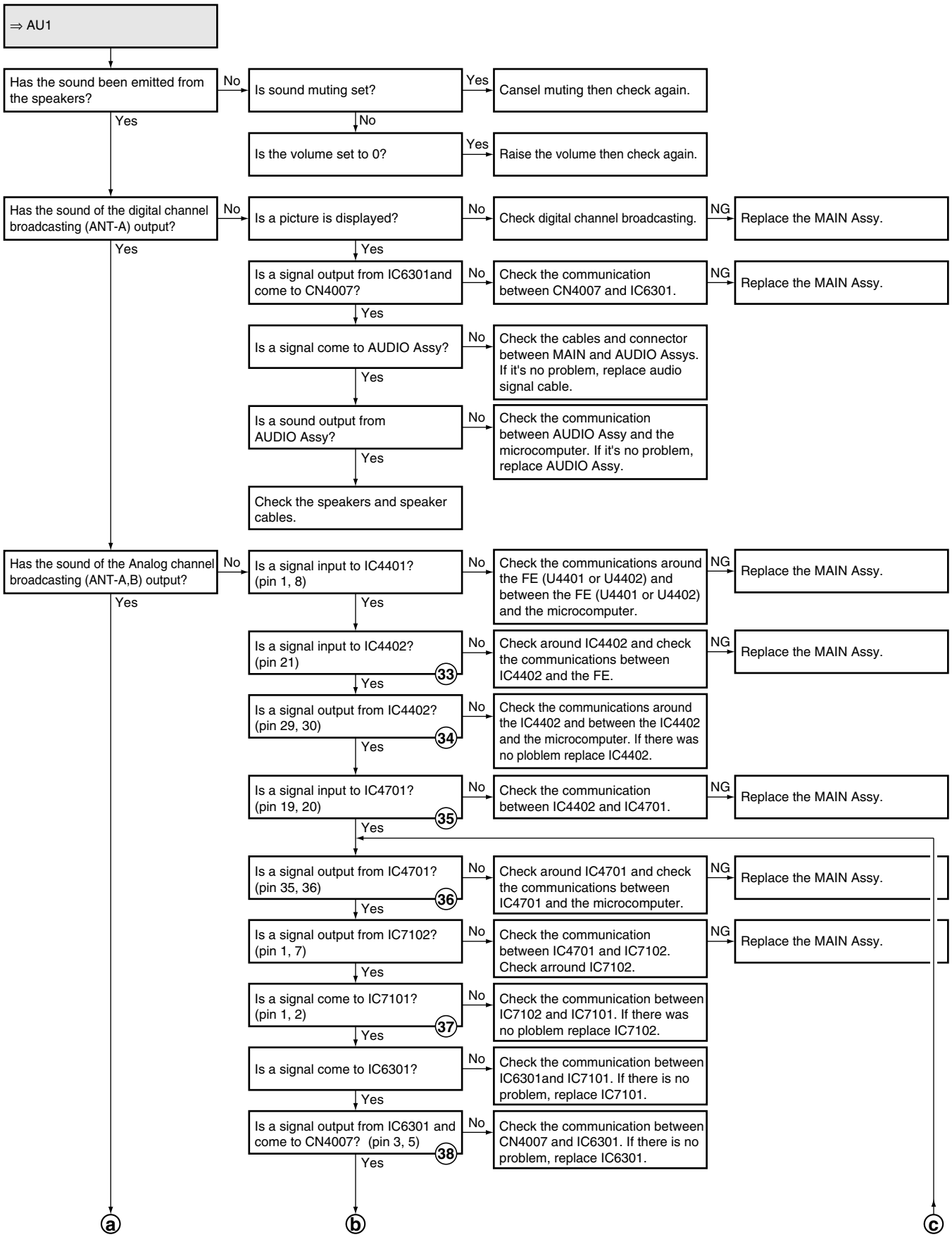
Yes

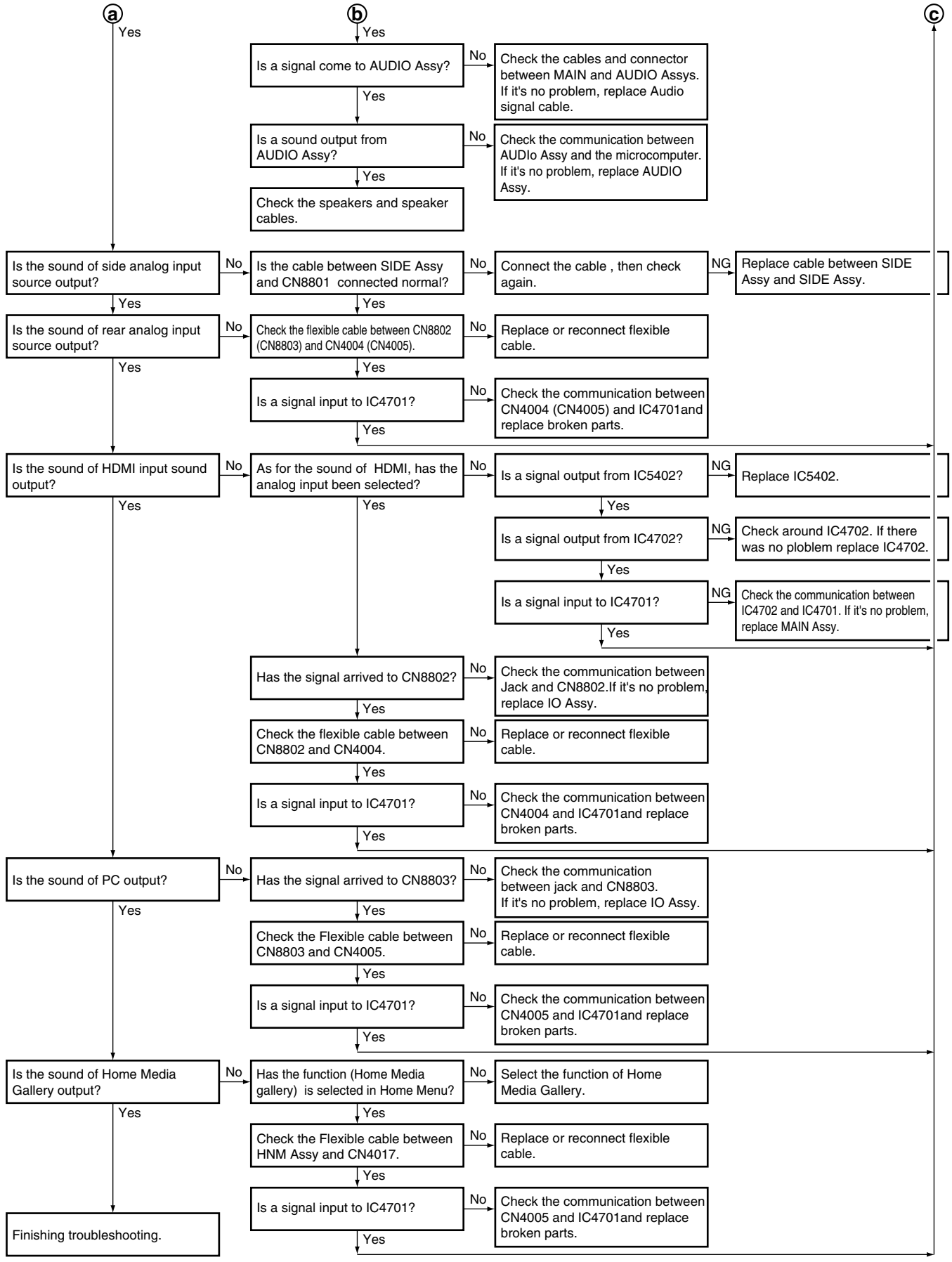
Check the around of pin Jack.

● **Waveforms**
Input signal: 100 Hz
Sound volume is fixed to 25.


31 IC4701 - pin 31, 32 (AC-SUBWOO)
V: 200 mV/div H: 4 msec/div
31 IC4701 - pin 31, 32 (DC-SUBWOO)
V: 1 V/div H: 10 msec/div
32 IC4704 - pin 1, 7 (AC-SUBWOO)
V: 200 mV/div H: 4 msec/div
32 IC4704 - pin 1, 7 (DC-SUBWOO)
V: 500 mV/div H: 4 msec/div

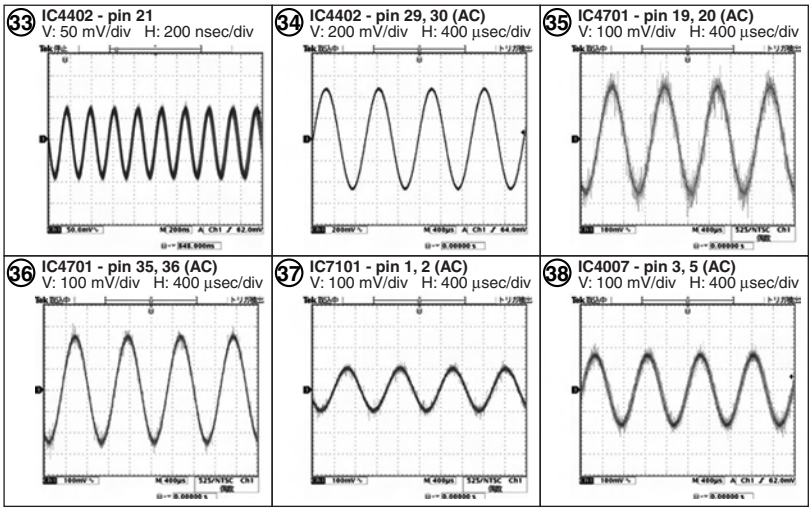
No sound from panel


⇒ AU1
Has the sound been emitted from the speakers?
No
Is sound muting set?
Yes
Cansel muting then check again.
Yes
No
Is the volume set to 0?
Yes
Raise the volume then check again.
Has the sound of the digital channel broadcasting (ANT-A) output?
No
Is a picture is displayed?
No
Check digital channel broadcasting.
NG
Replace the MAIN Assy.
Yes
Yes
Is a signal output from IC6301and come to CN4007?
No
Check the communication between CN4007 and IC6301.
NG
Replace the MAIN Assy.
Yes
Is a signal come to AUDIO Assy?
No
Check the cables and connector between MAIN and AUDIO Assys. If it's no problem, replace audio signal cable.
Yes
Is a sound output from AUDIO Assy?
No
Check the communication between AUDIO Assy and the microcomputer. If it's no problem, replace AUDIO Assy.
Yes
Check the speakers and speaker cables.
Has the sound of the Analog channel broadcasting (ANT-A,B) output?
No
Is a signal input to IC4401? (pin 1, 8)
No
Check the communications around the FE (U4401 or U4402) and between the FE (U4401 or U4402) and the microcomputer.
NG
Replace the MAIN Assy.
Yes
Yes
Is a signal input to IC4402? (pin 21)
33
No
Check around IC4402 and check the communications between IC4402 and the FE.
NG
Replace the MAIN Assy.
Yes
Is a signal output from IC4402? (pin 29, 30)
34
No
Check the communications around the IC4402 and between the IC4402 and the microcomputer. If there was no ploblem replace IC4402.
Yes
Is a signal input to IC4701? (pin 19, 20)
35
No
Check the communication between IC4402 and IC4701.
NG
Replace the MAIN Assy.
Yes
Is a signal output from IC4701? (pin 35, 36)
36
No
Check around IC4701 and check the communications between IC4701 and the microcomputer.
NG
Replace the MAIN Assy.
Yes
Is a signal output from IC7102? (pin 1, 7)
No
Check the communication between IC4701 and IC7102. Check arround IC7102.
NG
Replace the MAIN Assy.
Yes
Is a signal come to IC7101? (pin 1, 2)
37
No
Check the communication between IC7102 and IC7101. If there was no ploblem replace IC7102.
Yes
Is a signal come to IC6301?
No
Check the communication between IC6301and IC7101. If there is no problem, replace IC7101.
Yes
Is a signal output from IC6301 and come to CN4007? (pin 3, 5)
38
No
Check the communication between CN4007 and IC6301. If there is no problem, replace IC6301.
Yes
ⓐ
ⓑ
ⓒ

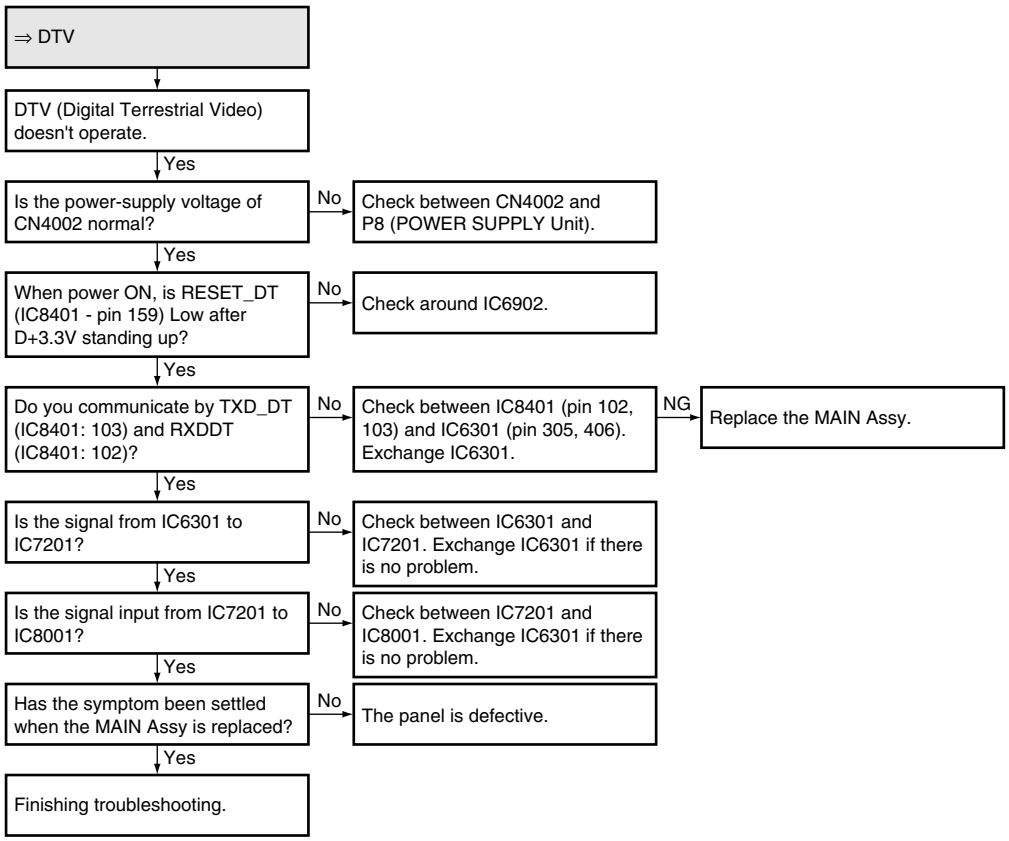

a
b
c
Yes
Is a signal come to AUDIO Assy?
No
Check the cables and connector between MAIN and AUDIO Assys. If it's no problem, replace Audio signal cable.
Is a sound output from AUDIO Assy?
Check the communication between AUDIo Assy and the microcomputer. If it's no problem, replace AUDIO Assy.
Check the speakers and speaker cables.
Is the sound of side analog input source output?
Is the cable between SIDE Assy and CN8801 connected normal?
Connect the cable , then check again.
NG
Replace cable between SIDE Assy and SIDE Assy.
Is the sound of rear analog input source output?
Check the flexible cable between CN8802 (CN8803) and CN4004 (CN4005).
Replace or reconnect flexible cable.
Is a signal input to IC4701?
Check the communication between CN4004 (CN4005) and IC4701and replace broken parts.
Is the sound of HDMI input sound output?
As for the sound of HDMI, has the analog input been selected?
Is a signal output from IC5402?
Replace IC5402.
Is a signal output from IC4702?
Check around IC4702. If there was no ploblem replace IC4702.
Is a signal input to IC4701?
Check the communication between IC4702 and IC4701. If it's no problem, replace MAIN Assy.
Has the signal arrived to CN8802?
Check the communication between Jack and CN8802.If it's no problem, replace IO Assy.
Check the flexible cable between CN8802 and CN4004.
Replace or reconnect flexible cable.
Is a signal input to IC4701?
Check the communication between CN4004 and IC4701and replace broken parts.
Is the sound of PC output?
Has the signal arrived to CN8803?
Check the communication between jack and CN8803. If it's no problem, replace IO Assy.
Check the Flexible cable between CN8803 and CN4005.
Replace or reconnect flexible cable.
Is a signal input to IC4701?
Check the communication between CN4005 and IC4701and replace broken parts.
Is the sound of Home Media Gallery output?
Has the function (Home Media gallery) is selected in Home Menu?
Select the function of Home Media Gallery.
Check the Flexible cable between HNM Assy and CN4017.
Replace or reconnect flexible cable.
Is a signal input to IC4701?
Check the communication between CN4005 and IC4701and replace broken parts.
Finishing troubleshooting.

● Waveforms

Input signal: 1kHz
Sound volume is fixed to 25.


33 IC4402 - pin 21
V: 50 mV/div H: 200 nsec/div
34 IC4402 - pin 29, 30 (AC)
V: 200 mV/div H: 400 µsec/div
35 IC4701 - pin 19, 20 (AC)
V: 100 mV/div H: 400 µsec/div
36 IC4701 - pin 35, 36 (AC)
V: 100 mV/div H: 400 µsec/div
37 IC7101 - pin 1, 2 (AC)
V: 100 mV/div H: 400 µsec/div
38 IC4007 - pin 3, 5 (AC)
V: 100 mV/div H: 400 µsec/div

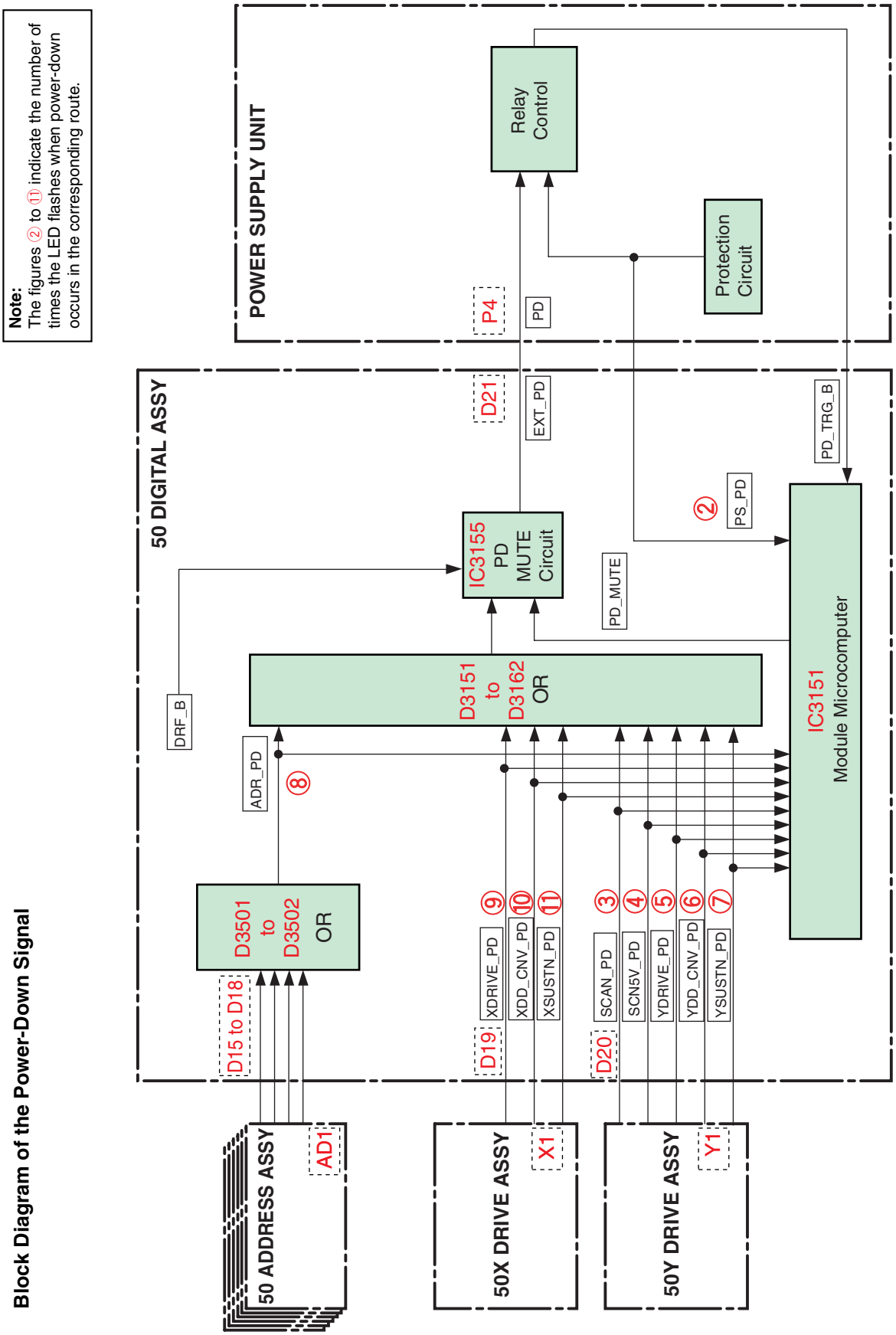
DTV doesn't work


⇒ DTV
DTV (Digital Terrestrial Video) doesn't operate.
Yes
Is the power-supply voltage of CN4002 normal?
No
Check between CN4002 and P8 (POWER SUPPLY Unit).
Yes
When power ON, is RESET_DT (IC8401 - pin 159) Low after D+3.3V standing up?
No
Check around IC6902.
Yes
Do you communicate by TXD_DT (IC8401: 103) and RXDDT (IC8401: 102)?
No
Check between IC8401 (pin 102, 103) and IC6301 (pin 305, 406). Exchange IC6301.
NG
Replace the MAIN Assy.
Yes
Is the signal from IC6301 to IC7201?
No
Check between IC6301 and IC7201. Exchange IC6301 if there is no problem.
Yes
Is the signal input from IC7201 to IC8001?
No
Check between IC7201 and IC8001. Exchange IC6301 if there is no problem.
Yes
Has the symptom been settled when the MAIN Assy is replaced?
No
The panel is defective.
Yes
Finishing troubleshooting.

5.2 POWER DOWN
5.2.1 BLOCK DIAGRAM OF THE POWER-DOWN SIGNAL

■ Block Diagram of the Power-Down Signal

Note:
The figures ② to ⑪ indicate the number of times the LED flashes when power-down occurs in the corresponding route.



Block Diagram of the Power-Down Signal

5.2.2 POWER DOWN OF FAILURE ANALYSIS

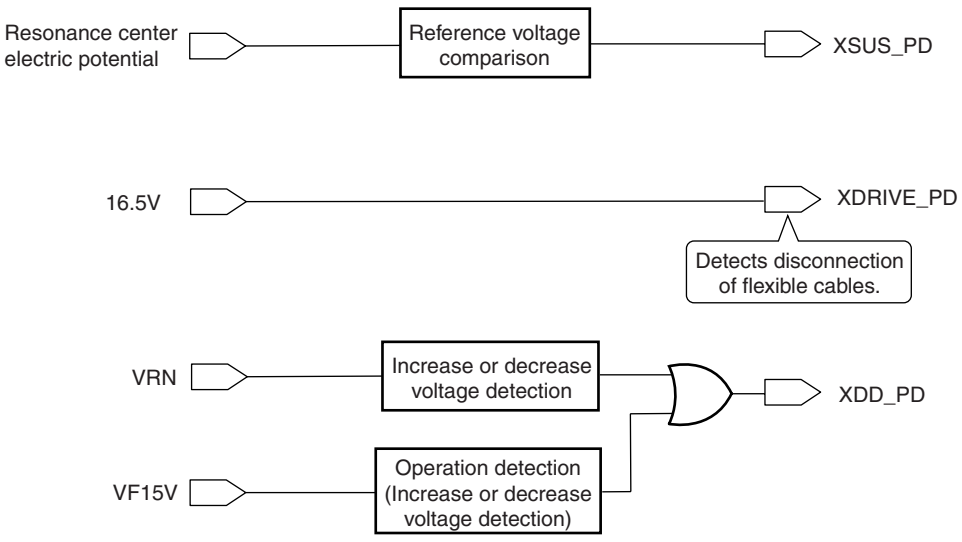
■ Prediction of failure symptoms when a PD (power-down) is generated

LED Flashing Count	PD Circuit	Checkpoint	Main Cause
2	Power supply PD	POWER SUPPLY Unit	Failure in the POWER SUPPLY Unit
3	SCAN PD	50 SCAN A, B Assy	SCAN IC is damaged (short-circuiting between VH and GNDH)
		50Y DRIVE Assy	Connectors disconnected between the POWER SUPPLY Unit and the Y DRIVE Assy Connectors disconnected between the DIGITAL and the Y DRIVE Assys Failure in the VH power
4	IC5V PD	50SCAN A, B Assy	SCAN IC is damaged (short-circuiting between IC5V and GNDH)
			Disconnection of the scan-bridge (15-pin) connector
		50Y DRIVE Assy	Failure in the photo coupler
			Abnormality in the IC5V DC/DC converter
5	Y-DRIVE PD	50Y DRIVE Assy	Abnormality in the 16.5 V power
6	Y DCDC PD	50Y DRIVE Assy	Abnormality in the VOFS DC/DC converter
			Abnormality in the VPRST DC/DC converter
			Abnormality in VC_15V DC/DC converter
7	Y SUS PD	50Y DRIVE Assy	Abnormality in the DK module
			Abnormality in the control signal line
8	Address PD	50 ADDRESS Assy	Short-circuiting of Vadr TCP damaged
9	X-DRIVE PD	50X DRIVE Assy	Connectors disconnected between the DIGITAL and the X DRIVE Assys
			Abnormality in the 16.5 V power
10	X DCDC PD	50X DRIVE Assy	Abnormality in VC_15V power
			Abnormality in VXNRST power
11	X SUS PD	50X DRIVE Assy	Abnormality in the DK module
			Abnormality in the control signal line
			Connectors disconnected between the POWER SUPPLY Unit and the X DRIVE Assy

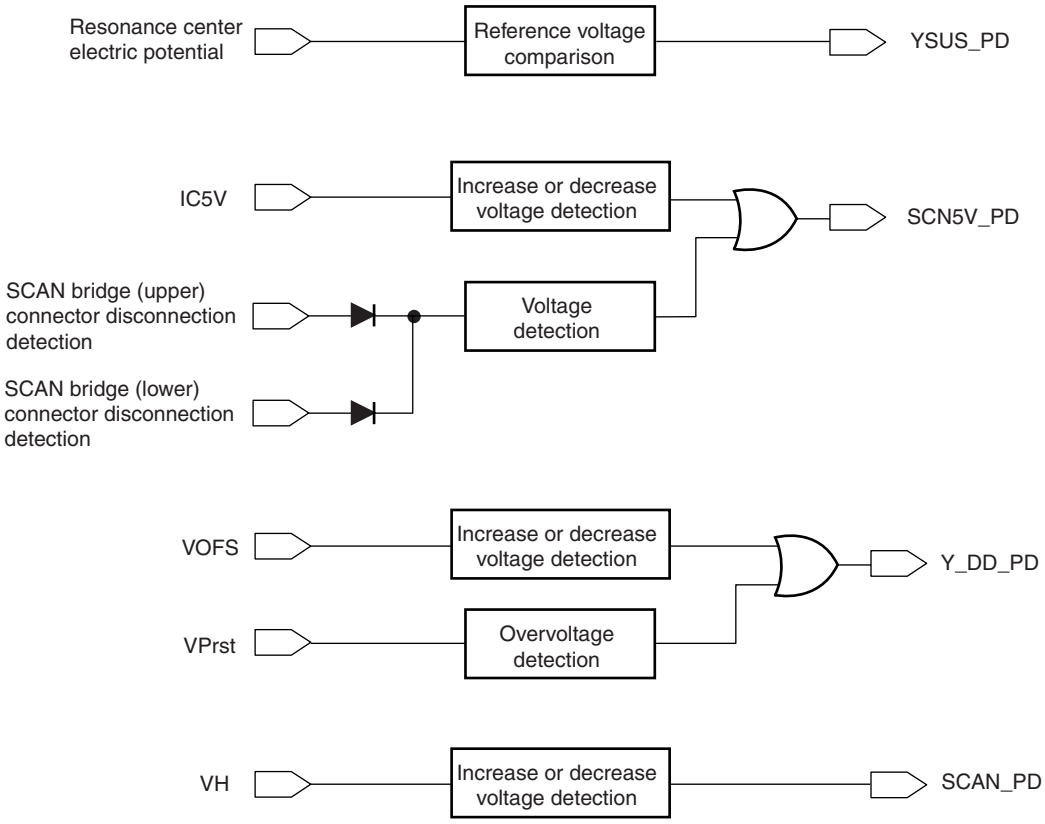
■ How to distinguish which connector is disconnected

Assy	Connector	To which Assy the Connector is Connected	Frequency of LED Flashing	Screen Display
50X DRIVE Assy	CN1001	50 DIGITAL Assy	11 (XDRIVE)	–
	CN1205	POWER SUPPLY Unit (ADR system power)	–	White (left half of the screen)
	CN1204	POWER SUPPLY Unit (drive system power)	12 (X-SUS)	–
	CN1206	50 ADDRESS Assy	8 (ADR)	–
50Y DRIVE Assy	CN2001	50 DIGITAL Assy	3 (SCAN)	–
	CN2204	POWER SUPPLY Unit (drive system power)	3 (SCAN)	–
	CN2206	POWER SUPPLY Unit (ADR system power)	–	White (right half of the screen)
	CN2205	50 ADDRESS Assy	8 (ADR)	–
	CN2601	50 SCAN A, B Assy	4 (SCN-5V)	–
50 SCAN A, B Assy	CN2801	50Y DRIVE Assy	4 (SCN-5V)	–
50 ADDRESS Assy	CN1602, CN1802	50 DIGITAL Assy	8 (ADRS)	–
	CN1601, CN1801	50X DRIVE Assy, 50Y DRIVE Assy	8 (ADRS)	–

X Drive PD system



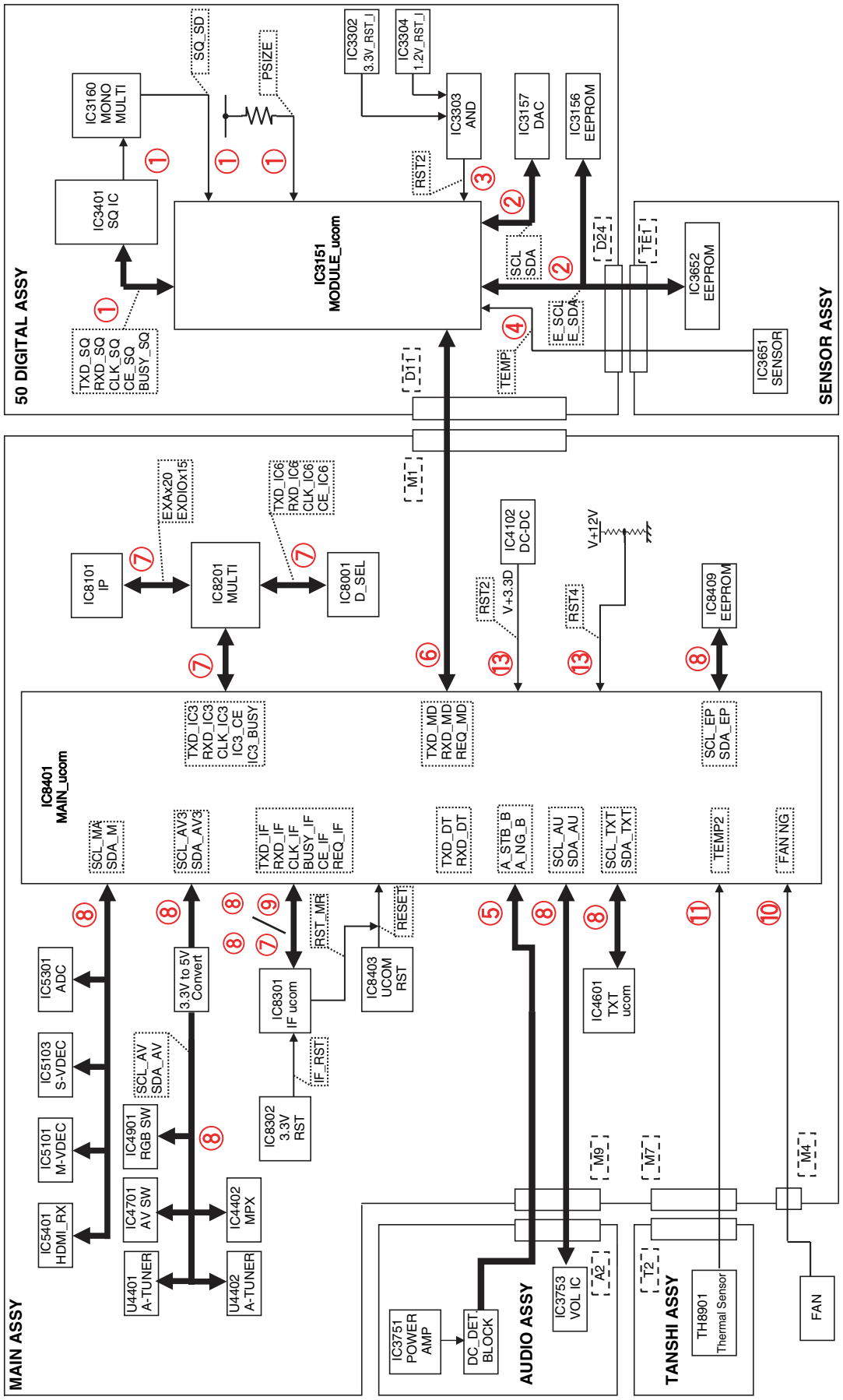
Y Drive PD system



5.3 SHUT DOWN

5.3.1 BLOCK DIAGRAM OF THE SHUT-DOWN SIGNAL

Block Diagram of the Shutdown Signal



Note : The figures ① to ⑬ indicate the number of times the LED flashes when shut-down occurs in the corresponding route.

Frequency of LED Flashing	Major Type	Detailed Type	Log Indication in Factory Mode		Checkpoint	Possible Defective Part	Remarks
			MAIN	SUB			
Blue 1	Abnormality in the Sequence Processor	Communication error	SQ-IC	RTRY	CLK_SQ/TXD_SQ, etc.	IC3151, IC3401	SQ_IC communication not established
		Drive stop		SQNO	Check if the video sync signal is input to IC3401.	CN3001, IC3401	If the signal detection by the module microcomputer is properly performed, the unit operates on an external sync.
		Busy		BUSY	BUSY_SQ	IC3401	If BUSY_SQ remains high, a shutdown is generated.
		Incoherent version (hardware, software)		VER-HS	Check the model number of the DIGITAL Assy and the destination of the sequence processor.	IC3301, IC3401	The written SQ_PROG is incoherent with data on the DIGITAL Assy.
Blue 2	Failure in IIC communication with the module microcomputer	DIGITAL Assy EEPROM	MD-IIC	EEPROM	IIC communication line of IC3156	IC3151, IC3156	Check the pull-up resistor of the IIC control line and the power to the corresponding IC.
		SENSOR Assy EEPROM		BACKUP	IIC communication line of IC3652	IC3151, IC3652	Check the pull-up resistor of the IIC control line and the power to the corresponding IC.
		DAC		DAC	IIC communication line of IC3157	IC3151, IC3157	Check the pull-up resistor of the IIC control line and the power to the corresponding IC.
Blue 3	Abnormality in RST2 power decrease	–	RST2	–	Is the output voltage of the DC-DC converter low?	AXY1135	If RST2 does not become high after the unit is turned on, a shutdown will be generated in several seconds.
					The 12 V power is not output.	POWER SUPPLY Unit	Check if V + 12 V is started.
Blue 4	High temperature of the panel	–	TMP_NG	TEMP1	Ambient temperature	–	If TEMP1 that is read by the module microcomputer is 75°C or higher, a shutdown will be generated.
					Abnormality in the panel temperature sensor	IC3651	Check the connection with the SENSOR Assy.
Blue 5	Short-circuiting of the speakers	–	AUDIO	–	Speaker terminals	CN3753, CN3901, JA3901	Check if any speaker cable is in contact with the chassis.
					AUDIO_AMP	IC3751	Check if the AMP output is short-circuited.
					Periphery of the cable between A2 and M8	CN3752, CN4007	Check if cables are firmly connected.
Blue 6	Failure in communication with the module microcomputer	–	MODULE	–	Communication line between MAIN and MOD	IC3151, IC8401	Check the communication lines (RXD_MOD/RXD_MOD/REQ_MOD).
					Periphery of the cable between D11 and M2	CN3001, CN4001	Check if cables are firmly connected.
Blue 7	Failure in main microcomputer 3-wire serial communication	IF microcomputer	MA-SRL	IF	Communication line between IF and MAIN	IC8301, IC8401	Check the communication lines (TXD_IF/RXD_IF/CLK_IF/BUSY_IF/CE_IF/REQ_IF).
		MULTI		MULTI	Communication line between MULTI_M and MAIN	IC8201, IC8401	Check the communication lines (TXD_IC3/RXD_IC3/CLK_IC3/CE_IC3/IC3_BUSY).
				I/P	Bus communication line between IP and MULTI_M	IC8101, IC8201	Check the communication lines (EXA/EXDIO).
				D_SEL	Communication line between D_SEL and MULTI_M	IC8001, IC8201	Check the communication lines (TXD_IC6/RXD_IC6/CLK_IC6/CE_IC6).
Blue 8	Failure in IIC communication with the main microcomputer	AV Switch	MA-IIC	AV-SW	IIC communication line between AV_SW and MAIN	IC4701, IC8401	Check the communication lines (SCL_AV3/SDA_AV3 or SCL_AV/SDA_AV).
		RGB Switch		RGB-SW	IIC communication line between RGB_SW and MAIN	IC4901, IC8401	Check the communication lines (SCL_AV3/SDA_AV3 or SCL_AV/SDA_AV).
		Analog Tuner		FE1	IIC communication line between A_Tuner and MAIN	U4401, IC8401	Check the communication lines (SCL_AV3/SDA_AV3 or SCL_AV/SDA_AV).
		Sub VDEC		S-VDEC	IIC communication line between S_VDEC and MAIN	IC5103, IC8401	Check the communication lines (SCL_MA/SDA_MA).
		MPX		MPX	IIC communication line between MPX and MAIN	IC4402, IC8401	Check the communication lines (SCL_AV3/SDA_AV3 or SCL_AV/SDA_AV).
		Main VDEC		M-VDEC	IIC communication line between M_VDEC and MAIN	IC5101, IC8401	Check the communication lines (SCL_MA/SDA_MA).
		AD/PLL		ADC	IIC communication line between ADC and MAIN	IC5301, IC8401	Check the communication lines (SCL_MA/SDA_MA).
		HDMI		HDMI	IIC communication line between HDMI_RX and MAIN	IC5401, IC8401	Check the communication lines (SCL_MA/SDA_MA).
		TXT		TXT	IIC communication line between TXT and MAIN	IC4601, IC8401	Check the communication lines (SCL_TXT/SDA_TXT).
		64K EEPROM		MA-EEP	IIC communication line between EEPROM and MAIN	IC4801, IC8401	Check the communication lines (SCL_TXT/SDA_EP).
		VOLUME IC		AUDIO	IIC communication line between VOL_IC and MAIN	IC3753, IC8401	Check the communication lines (SCL_AUDIO/SDA_AUDIO).
		VOLUME IC		AUDIO	Periphery of the cable between A2 and M9	CN3752, CN4007	Check if cables are firmly connected.
Blue 9	Failure in communication with the main microcomputer and unknown	–	MAIN	–	Communication line between IF and MAIN	IC8301, IC8303, IC8304, IC8401	Check the communication lines (TXD_IF/RXD_IF/CLK_IF/BUSY_IF/CE_IF/REQ_IF).
Blue 10	Failure in the fan	–	FAN	–	Dirt attached to the fan motor	–	Check the fan.
					Periphery of the cable between fan and M4	CN4009	Check if cables are firmly connected.
					Periphery of the fan control regulator	IC8407	–
Blue 11	High temperature of the unit	–	TEMP2	–	Temperature sensor or its periphery	–	A shutdown is generated if TEMP2 becomes higher than 53°C
					Periphery of the temperature sensor	TH8801, Q8806	TEMP2
					Periphery of the cable between T1 and M6	CN8804, CN4005	Check if cables are firmly connected.
Blue 12	Digital Tuner The unit will not be shut down. the log is recorded	–	DTUNER		Failure in the system IC or its peripheral circuit	IC2000	Check for short-circuited/open communication line (M12 TXD_DT/RXD_DT)
Blue 13	Failure in the POWER SUPPLY Unit	DC-DC converter power decrease	MA-PWR	M-DCDC	DC-DC converter or its periphery, RST2	IC4102, Q4106	Check if V + 3.3 V is started.
		POWER SUPPLY		RELAY	The 12 V power is not output, RST4	–	Check if V + 12 V is started.
					Periphery of the cable between P8 and M2	CN4002	Check if cables are firmly connected.

5.4 NON-FAILURE SYMPTOMS

■ Information on symptoms that do not constitute failure

Symptom	Cause, item to check, information
HDMI: Symptoms concerning the input format and settings	
The picture color for an INPUT 3 or 4 signal is not correct.	The color setting for INPUT 3 or 4 is not compatible with that of the output equipment. Check whether the color setting is YPbPr or RGB.
The video signal to INPUT 3 or 4 is not displayed, and a message is displayed.	A unsupported video signal is input. Example: 1080p @ 60Hz
The audio signal input to the INPUT 3 or 4 pin jack is not output.	The audio setting for INPUT 3 or 4 is "AUTO," and a video signal is not input. If the audio setting is "AUTO," to output an analog audio signal, the DVI signal must be input via a DVI-HDMI conversion cable. When the DVI equipment is connected, the analog signals are selected with the setting "AUTO."
No sound of signals to INPUT 3 or 4 is output.	The setting on the side of the HDMI output equipment is wrong. Example: Dolby Digital
MONITOR video output	
The video output signal from the MONITOR connector is deteriorated. Or when the video output signal from the MONITOR connector is recorded, its playback picture is deteriorated.	The video signal output from the MONITOR connector is Macrovision protected.
The video signal is not output when the component signal is input to INPUT 2.	The video signal is not output from the MONITOR connector when the component signal is selected.
The video signal is not output when the video signal is input to INPUT 3 or 4.	The video signal is not output from the MONITOR connector when the HDMI signal is selected.
MONITOR audio output	
The image displayed on the PDP is not synchronized with the sound from the MONITOR audio output.	The audio signal from the MONITOR connector is synchronized with the video output signal from the MONITOR connector.
DIGITAL audio output	
Playback of the signal from the DIGITAL audio output connector is possible, but recording is not possible.	The video signal output from the DIGITAL connector is copy-protected.
The video output signal from the DIGITAL connector is not synchronized with that from the MONITOR video output.	The digital audio output signal from the DIGITAL connector is synchronized with the video signal that is currently displayed, and not with the MONITOR video output.
Miscellaneous	
The no-signal off function is not activated.	The no-signal off function is effective only while a video signal is being input.
The no-operation off function is not activated.	The no-operation off function is effective only while a video signal is being input.
Power management does not function.	Power management is effective only while a signal is being input from a PC.
The AUTO SETUP function is not activated.	The AUTO SETUP function is effective only while a signal is being input from a PC.
Control via the SR connector is not possible.	A failure in wrong connection of the cable to the SR audio connector is suspected.
The audio signal from the PC is not output.	A failure in wrong connection of the cable to the PC connector is suspected.
The picture-quality setting (AV Selection) is not stored.	The picture-quality setting is stored for each input. As the setting is changed when another input is selected, the user may have a false idea that the setting is not stored.
The picture size changes arbitrary.	The Auto Size setting is set to ON (default is OFF).
The display position of the screen slightly changes every time the unit is turned on.	The orbiter function for minimizing the effects of phosphor burn is activated. As ON/OFF of this function can only be changed on the Integrator menu, turning off of this function by a user is not possible.
The video signal to the S video connector is not displayed.	Although S video input is selected on the menu, the cable is connected via a component video input connector whose function type is the same as S video input.
The video signal to the composite video connector is not displayed.	Although the composite video input is selected on the menu, the cable is connected via a component video connector or S video connector whose function type is the same as the composite video input.

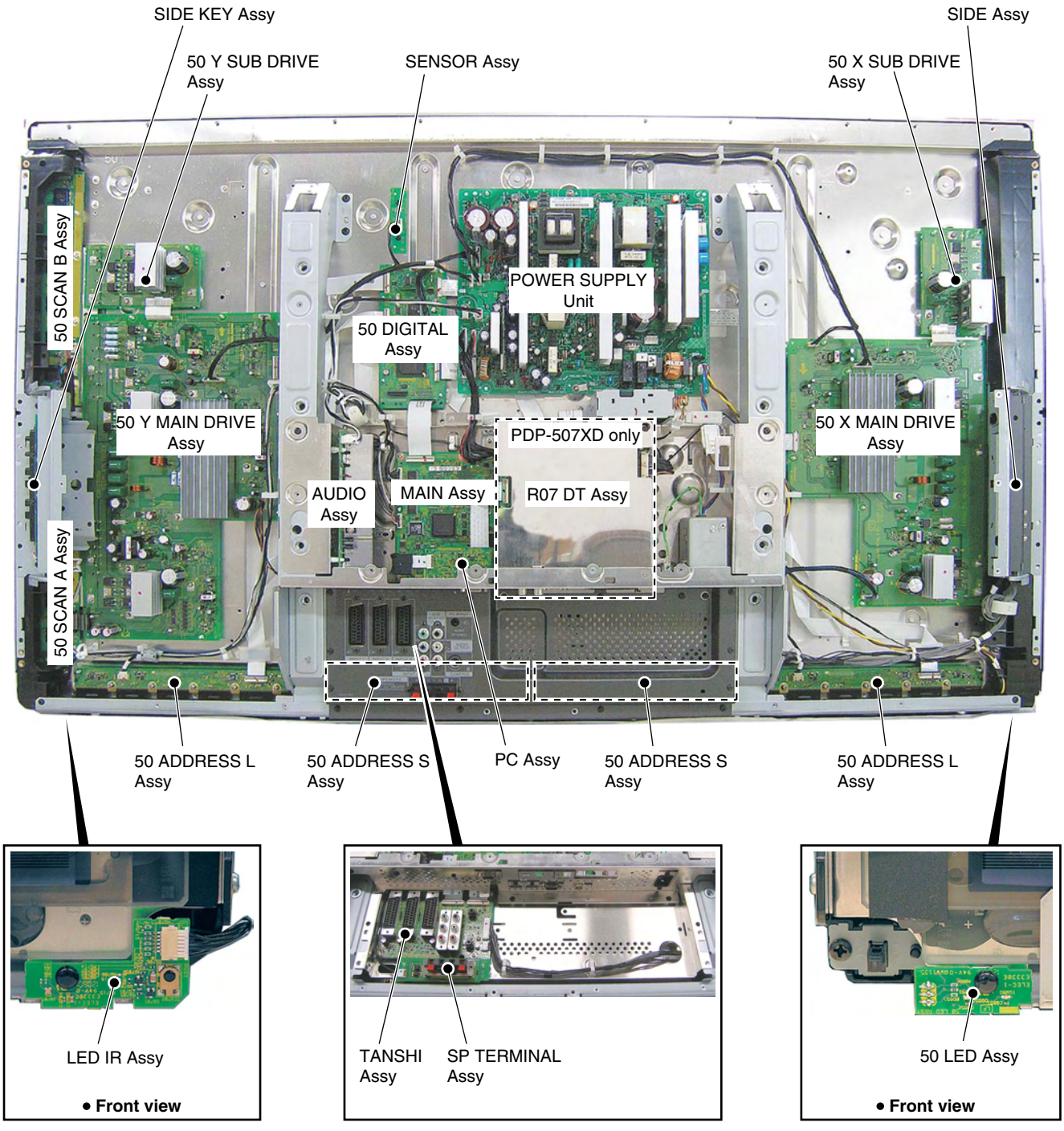
SUPPLEMENT: On the video setting for HDMI

There are three types of HDMI output formats: color difference 4:4:4, color difference 4:2:2, and RGB4:4:4.
(The proportions, such as 4:4:4 and 4:2:2, represent those of the amount of data for video signal components. For example, as for color difference 4:4:4, the proportion of the amount of data as for Y, Cb, and Cr is 4:4:4.)

It is required to make the settings of the PDP according to the settings of the output equipment. For usual operation, however, set them to AUTO. If the color is inappropriate, make the settings manually.
In the HDMI system, video signals are coded at 24 bits per pixel and transmitted as a series of 24-bit pixels. In a case of color difference 4:4:4, Y, Cb, and Cr use 8 bits each. In a case of color difference 4:2:2, Y, Cb, and Cr use 12 bits each, but Cb and Cr are transmitted at a half sampling rate of Y. This unit is capable of processing the upper 10 bits out of 12 bits of video data. Recent high-end DVD players, such as Pioneer DV-79AVi, are capable of outputting 10-bit color-difference signals. In general, it is said that picture quality for color difference 4:2:2 format is assumed to be higher, because human eyes are more sensitive to luminance than to colors. In the case of RGB4:4:4, R, G, and B use 8 bits each.

6. DISASSEMBLY

6.1 PCB LOCATION

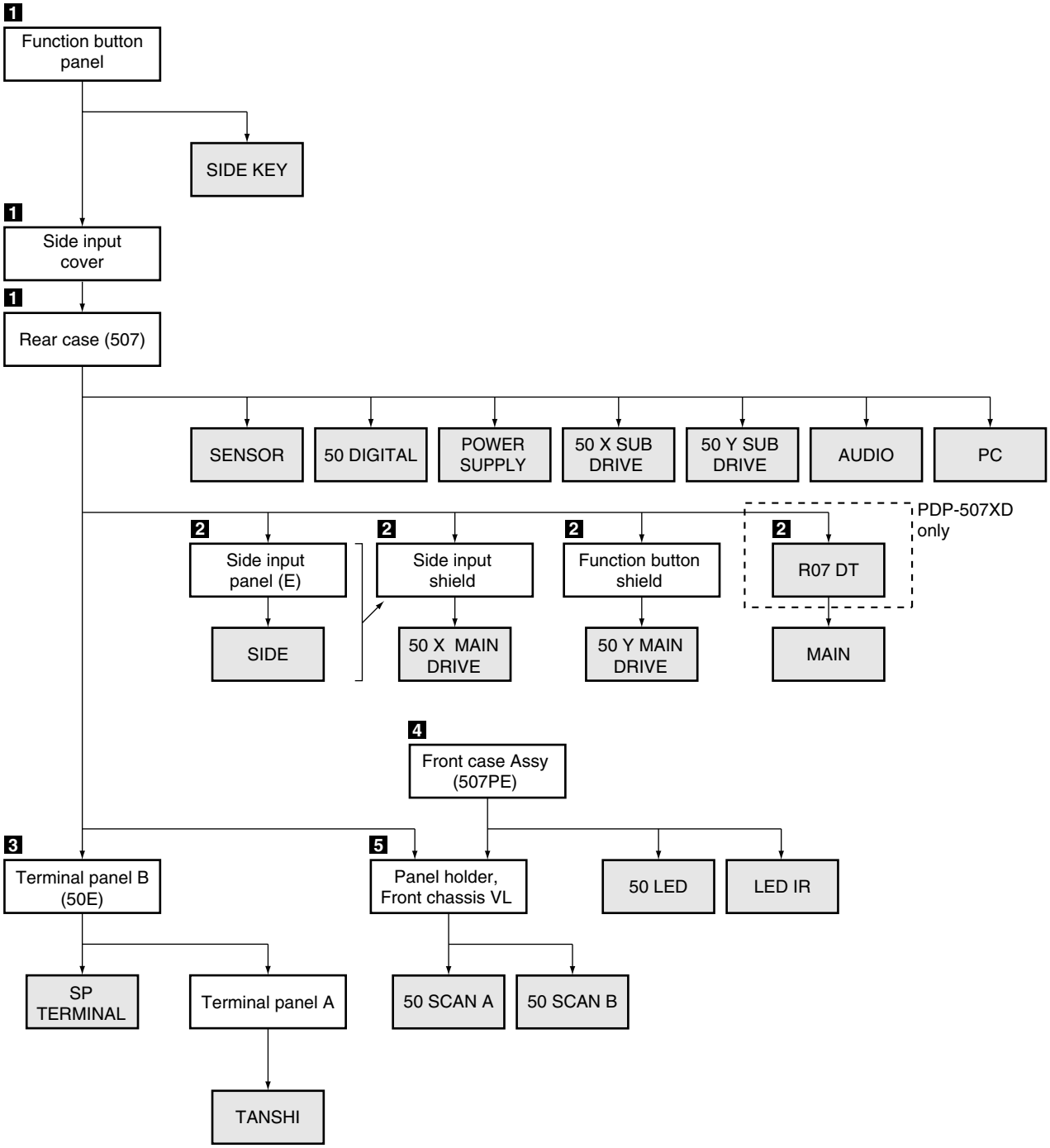


6.2 FLOWCHART OF THE MAIN PARTS AND PC BOARDS EXCHANGE

Note: Even if the unit shown in the photos and illustrations in this manual may differ from your product, the procedures described here are common.

Chart of removal order for the main parts and boards

It is efficient to proceed with removal of the main parts and boards in the order shown in the chart below:



Disassembly

1 Rear Case (507)

● Function button panel

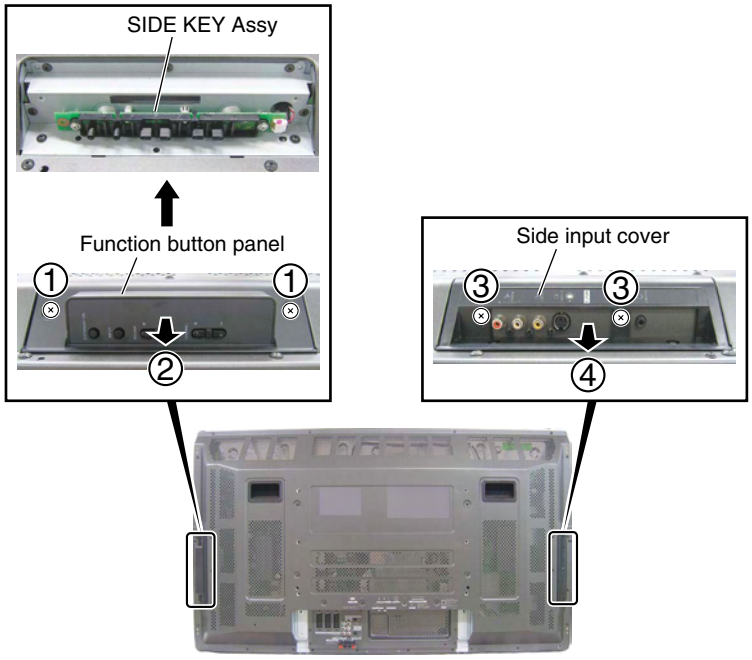
① Remove the two screws.

② Remove the function button panel.

● Side input cover

③ Remove the two screws.

④ Remove the side input cover.



● Rear case (507)

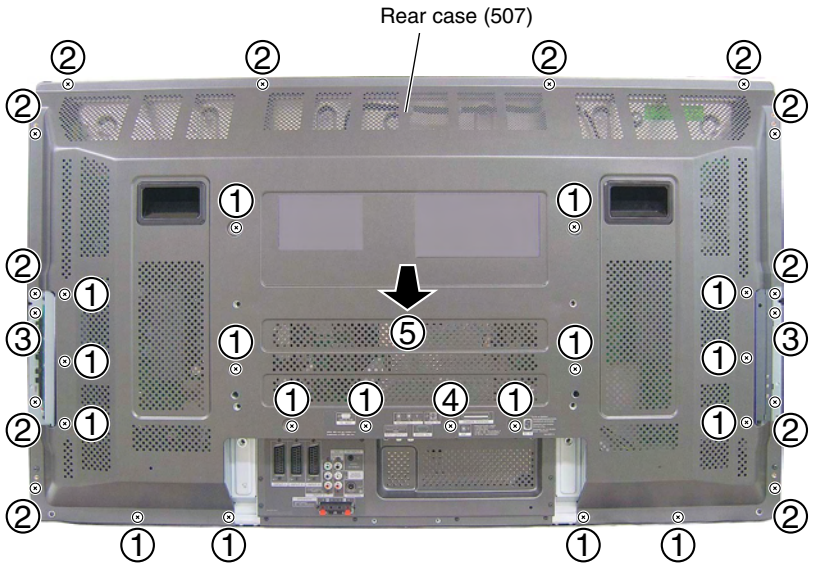
① Remove the 17 screws. (AMZ30P060FTB)

② Remove the 12 screws. (TBZ40P080FTB)

③ Remove the two screws. (ABA1332)

④ Remove the one screw. (ABA1341)

⑤ Remove the rear case (507).



2 Access to PCB Assys

● SIDE Assy

① Remove the four screws.
② Remove the two screws.
③ Remove the three screws.
④ Remove the side input panel (E).

● 50 X MAIN DRIVE Assy

① Remove the two screws.
② Remove the side input shield with PCB.

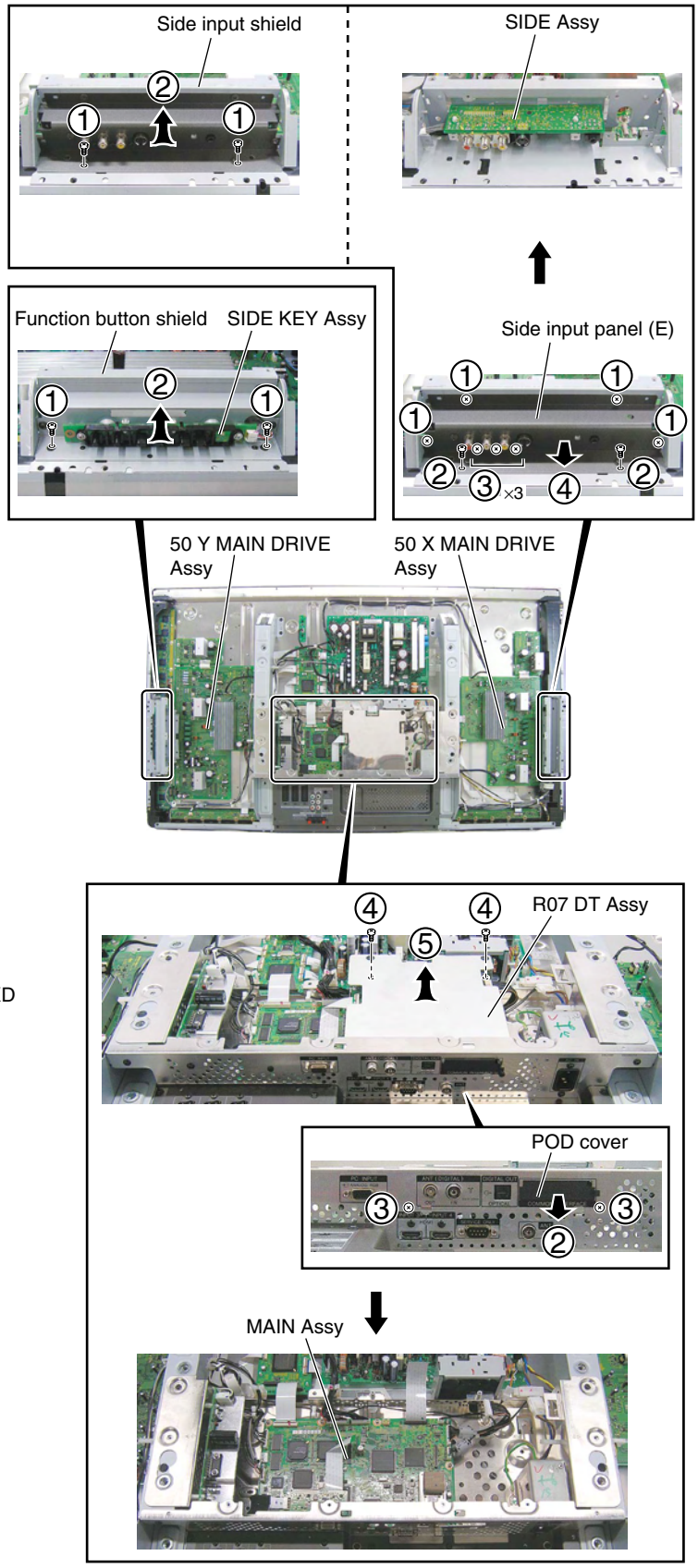
● 50 Y MAIN DRIVE Assy

① Remove the two screws.
② Remove the function button shield with PCB.

● MAIN Assy

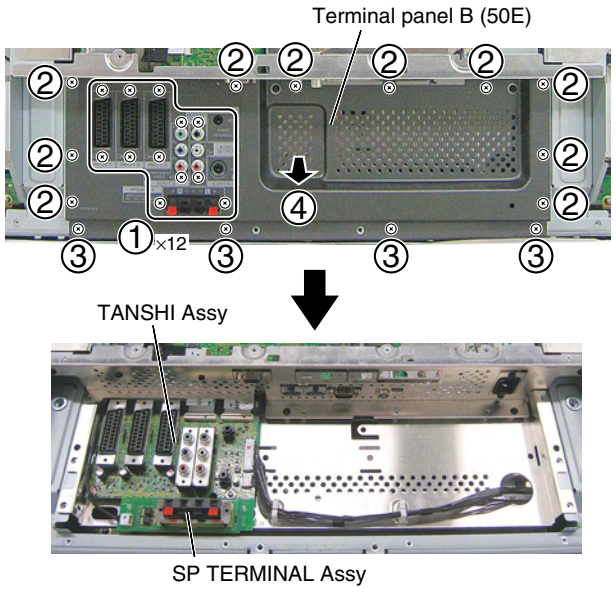
① Disconnect cables, connectors, as required.
② Remove the POD cover.
③ Remove the two screws.
④ Remove the two screws.
⑤ Remove the R07 DT Assy.

PDP-507XD only



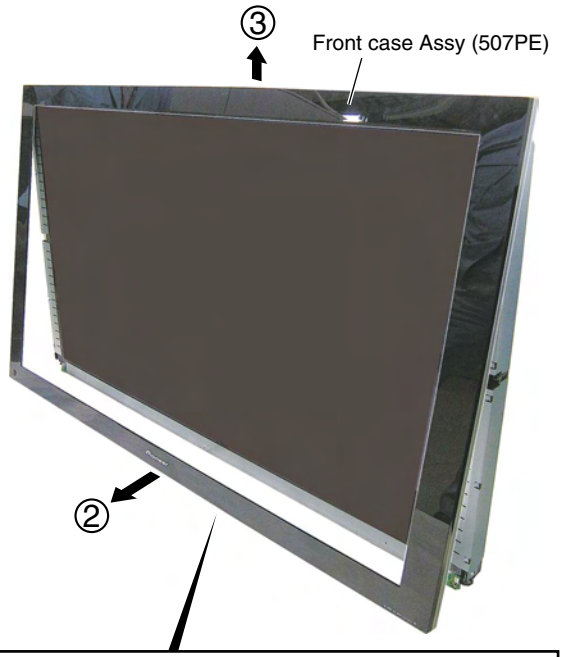
3 Terminal Panel B (50E)

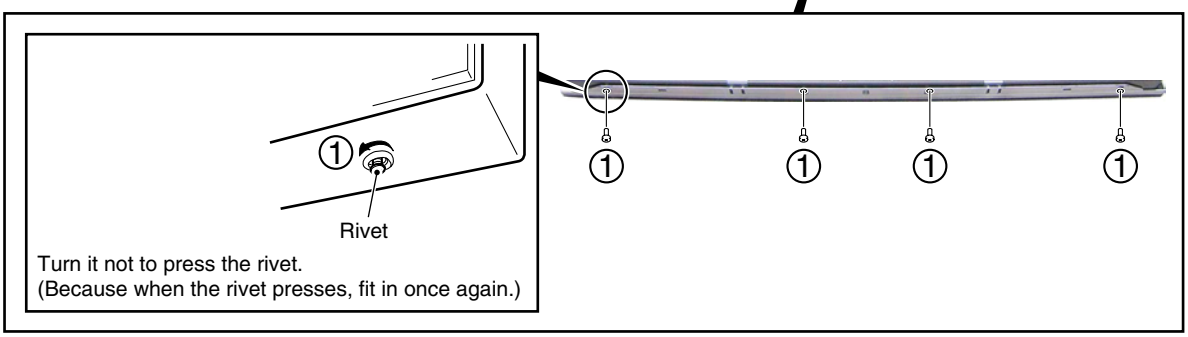
① Remove the 12 screws.
② Remove the 10 screws.
③ Remove the four screws.
④ Remove the terminal panel B (50E).



4 Front Case Assy (507PE)

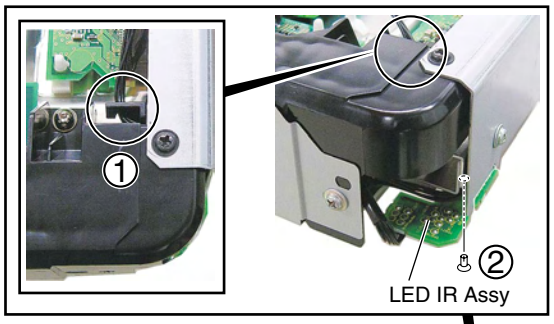
① Remove the four rivets.
② Pull the lower part of the Front case Assy (507PE) toward you and out.
③ Remove the Front case Assy (507PE), by pulling it upward.

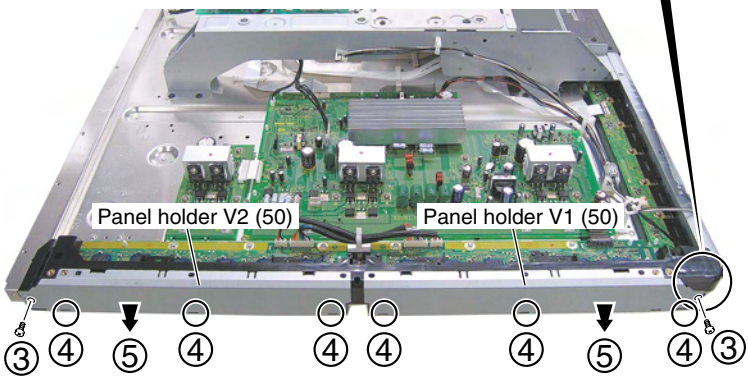




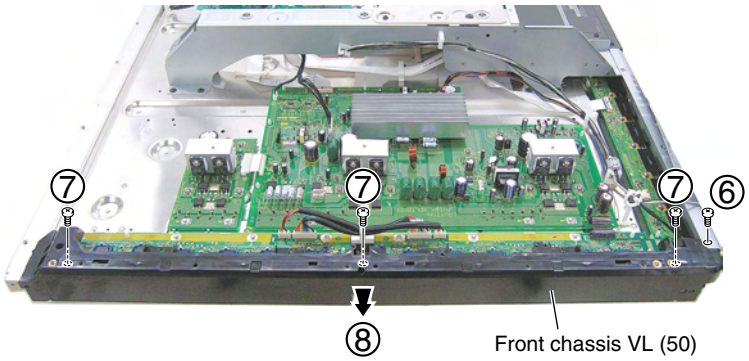
5 Exchange of SCAN IC

① Loosen the jumper wire.
② Remove the LED IR Assy by removing the one nyron rivet.
③ Remove the two screws.
④ Unhook the six hooks.
⑤ Remove the panel holders V1 (50) and V2 (50).

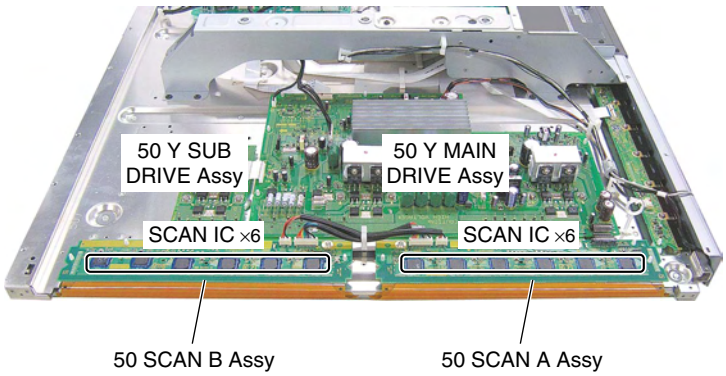




⑥ Remove the one screw.
⑦ Remove the three screws.
⑧ Remove the front chassis VL (50).



Exchange



7. ADJUSTMENT

7.1 PARTS CHANGE OF NOTES

1. At shipment, the unit is adjusted to its best conditions. Normally, it is not necessary to readjust even if an assembly is replaced. If the adjustment is shifted or if it becomes necessary to readjust because of part replacement, etc., perform the adjustment as described below.
2. Any value changed in Service/Factory mode will be stored in memory as soon as it is changed. Before readjustment, take note of the original values for reference in case you need to restore the original settings.
3. Use a stable AC power supply.

7.2 ADJUSTMENT REQUIRED WHEN THE SET IS REPAIRED OR REPLACED

■ When any of the following assemblies is replaced

POWER SUPPLY Unit	➡	Refer to "7.7 HOW TO CLEAR HISTORY DATA".
50 DIGITAL Assy	➡	Writing of backup data is required. Refer to the "7.4 BACKUP WHEN THE PANEL UNIT IS ADJUSTED. "
50X MAIN DRIVE Assy	➡	No adjustment required
50X SUB DRIVE Assy	➡	No adjustment required
50Y MAIN DRIVE Assy	➡	No adjustment required
50Y SUB DRIVE Assy	➡	No adjustment required
Service Panel Assy	➡	Refer to "7.5 ADJUSTMENTS WHEN THE SERVICE PANEL ASSY IS REPLACED" and "7.7 HOW TO CLEAR HISTORY DATA".
MAIN Assy	➡	Switching to SR+ from RS-232C
SENSOR Assy	➡	Writing of backup data is required. Refer to the "7.4 BACKUP WHEN THE PANEL UNIT IS ADJUSTED. "
TANSHI Assy	➡	No adjustment required
R07 DT Assy (PDP-507XD only)	➡	No adjustment required

7.3 ADJUSTMENT REQUIRED WHEN PART IS REPLACED

Notes on replacing parts

For the parts described in the list below, replacement is required for the whole Assy, not only the defective part.
If any part listed below is identified as defective and needs replacement, replace the whole Assy, and make necessary adjustments after replacement.

Reason: The whole Assy must be replaced, because adjustments and data rewriting for the Assy at the level of production line are required.

PCB Assy No.	Function Name	Parts that Require Whole-Assy Replacement		
		Ref No.	Function Name	Part No.
AWW1139	50 DIGITAL Assy	IC3151	Module microcomputer	AGC1011
		IC3401	Sequence IC	PEG239A
		IC3301	Flash memory	AGC1009
		IC3156	EEPROM	BR24L04FJ-W
AWW1140	SENSOR Assy	IC3652	EEPROM	BR24L02FJ-W
AWV2318	MAIN Assy	IC4603	Flash ROM	AGC1020
		IC4701	AV switch	R2S11002AFT
		IC4901	RGB switch	R2S11001FT
		IC5101	Main VDEC	UPD64015GM-UEU
		IC5103	Sub VDEC	TVP5150AM1PBS
		IC5301	A/D converter	AD9985KSTZ-110
		IC5403	EEPROM	BR24L02FJ-W
		IC5404	EEPROM	BR24L02FJ-W
		IC8202	Flash ROM	AGC1019
		IC8301	Flash UCOM	AGC1016
		IC8402	Flash ROM	AGC1018

POWER SUPPLY Unit	The assembly must be replaced as a unit, and no part replacement is allowed.
MAIN Assy	No adjustment is required after replacement of parts other than those mentioned above.
50 DIGITAL Assy	No adjustment is required after replacement of parts other than those mentioned above.
50X MAIN DRIVE Assy	No adjustment is required after replacement of parts other than those shown in "7.6 ADJUSTMENTS WHEN THE DRIVE ASSYS ARE REPLACED".
50X SUB DRIVE Assy	No adjustment required
50Y MAIN DRIVE Assy	No adjustment is required after replacement of parts other than those shown in "7.6 ADJUSTMENTS WHEN THE DRIVE ASSYS ARE REPLACED".
50Y SUB DRIVE Assy	No adjustment required
50 ADDRESS Assy	No adjustment required
SENSOR Assy	No adjustment is required after replacement of parts other than those mentioned above.
TANSHI Assy	No adjustment required
R07 DT Assy (PDP-507XD only)	This assembly must be replaced as a unit, and no part replacement is allowed.

7.4 BACKUP WHEN THE PANEL UNIT IS ADJUSTED

■ Outline

Adjustment data are stored in the EEPROM (IC3156/4K) on the DIGITAL Assy in the production process. Those adjustment data are also automatically stored in the EEPROM (for backup: IC3652) on the SENSOR Assy.
If the DIGITAL Assy is replaced, those adjustment data for backup can be copied from the EEPROM on the SENSOR Assy to a new DIGITAL Assy.

■ Backed up data

- Drive voltage adjustment value
- Hour-meter count
- Pulse-meter count
- Panel white balance adjustment value
- Serial No.
- Drive waveform adjustment value
- P-ON counter value
- PD/SD histories

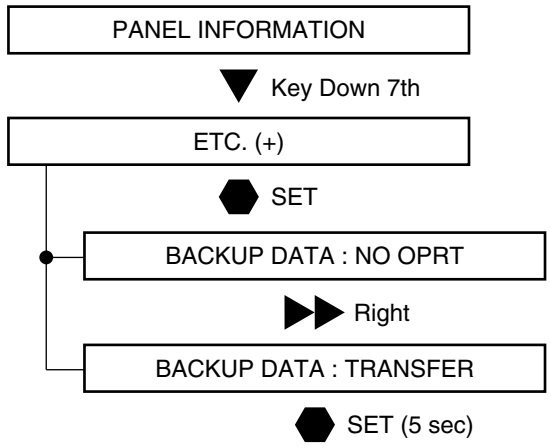
■ How to copy backup data

1. When the DIGITAL Assy is replaced with one for service (usual service)

Adjustment data can be restored by copying the data backed up in the SENSOR Assy to the EEPROM on a new DIGITAL Assy.
The EEPROM on the new DIGITAL Assy has no adjustment data, and the EEPROM for backup in the SENSOR Assy has adjustment data. After replacing the DIGITAL Assy, enter PANEL FACT. mode, display the PANEL INFORMATION page, then check if "NO DATA!" is set for "DIG. EEP" and "ADJUSTED" is set for "BACKUP". Then, proceed in the following steps:

(1) Copying, using the Factory menu

① Plug in the AC cord, press the Power switch on the unit to set it to ON, then enter Standby mode.
② Turn on the power, using the remote control unit, then enter Panel Factory mode.
Copy the backup data, as shown in the figure below.



③ Turn the power off.

- After the DIGITAL Assy is replaced with one for service, be sure to check if "NO DATA!" is set for "DIG. EEP" on the PANEL INFORMATION page of the PANEL FACT. mode.
- If copying of the backup data fails in the above procedure, the red LED lights, and the blue LED flashes, as a warning that no backup data were copied.
- If both the DIGITAL and SENSOR Assys are to be replaced, first replace the SENSOR Assy, turn the unit on and back off again, then replace the DIGITAL Assy.

(2) Copying, using the RS-232C commands

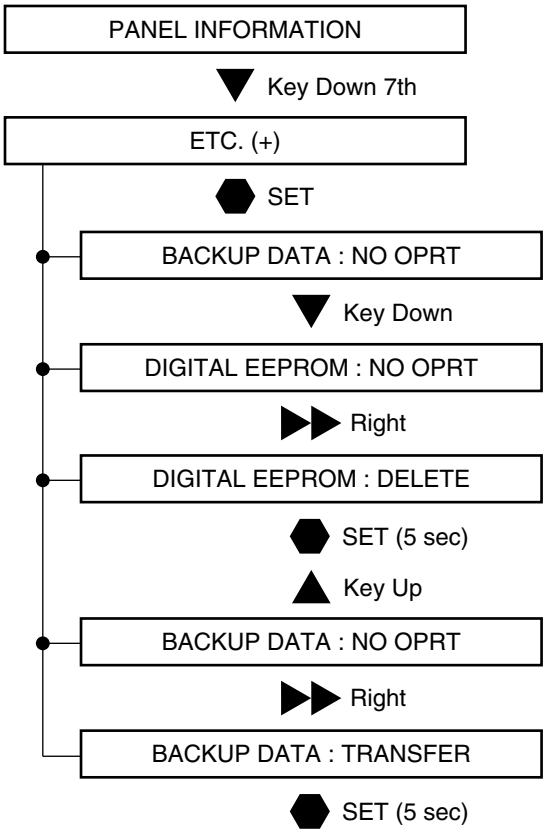
① Switch the RS-232C/SR+ setting to RS-232C so that RS-232C commands can be received.
② Turn on the unit, using the remote control unit or by issuing the PON command. Then issue the FAY command.
③ Issue the BCP command to transfer the data stored in the EEPROM for backup.
④ Turn the power off.

2. When a secondhand DIGITAL Assy that had been mounted in another product is to be reused

As adjustment data for another product are already stored in the secondhand DIGITAL Assy, first delete those data then copy the backup data stored in the EEPROM on the SENSOR Assy.

(1) Copying, using the Factory menu

① Plug in the AC cord, press the Power switch on the unit to set it to ON, then enter Standby mode.
② Turn on the power, using the remote control unit, then enter Panel Factory mode.
Copy the backup data, as shown in the figure below.



③ Turn the power off.

Note:

If the secondhand DIGITAL Assy is mounted in the product then the unit is turned on then back off again, the data in the EEPROM on the DIGITAL Assy are copied over the EEPROM in the SENSOR Assy. Thus the backup data can never be restored. During the first power-on after the DIGITAL Assy is replaced, be sure to enter Factory mode to copy the backup data. Or, before removing the secondhand DIGITAL Assy from the original product, delete the adjustment data on it, using the Factory mode (DIGITAL EEPROM: DELETE), mount it to the product to be repaired, then copy the data from the backup EEPROM.

(2) Copying, using the RS-232C commands

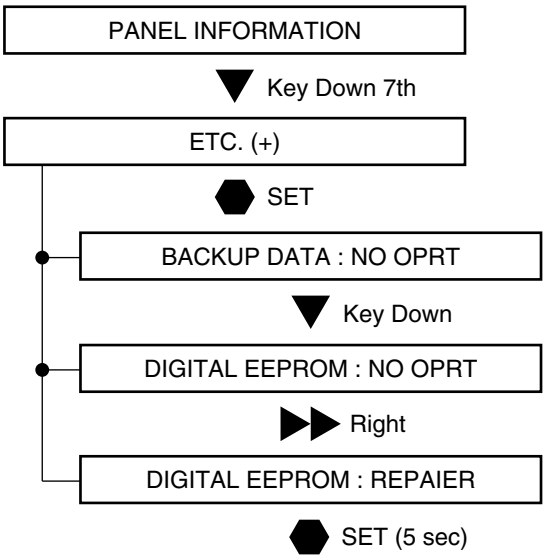
① Switch the RS-232C/SR+ setting to RS-232C so that RS-232C commands can be received.
② Turn on the unit, using the remote control unit or by issuing the PON command. Then issue the FAY command.
③ Issue the UAJ command to delete data stored in the EEPROM on the DIGITAL Assy.
④ Issue the BCP command to transfer the data stored in the EEPROM for backup.
⑤ Turn the power off.

3. In a case where normal backup data are not stored in the backup EEPROM because the EEPROM on the DIGITAL Assy is defective, etc., and where manually adjusted values are to be applied to the product

Note: In this section, it is assumed that settings for various items have been completed, using Factory menu or RS-232C commands.

(1) Method using the Factory menu

① Set various setting/adjustment values.
② Proceed in the following steps.



③ Turn the power off.

Note:
When a DIGITAL Assy with an EEPROM in which adjustment data are stored is mounted, this step is not required after manual adjustment. ("DIGITAL EEPROM: REPAIR" is not indicated.)

(2) Method using the RS-232C commands

Issue the FAJ command.

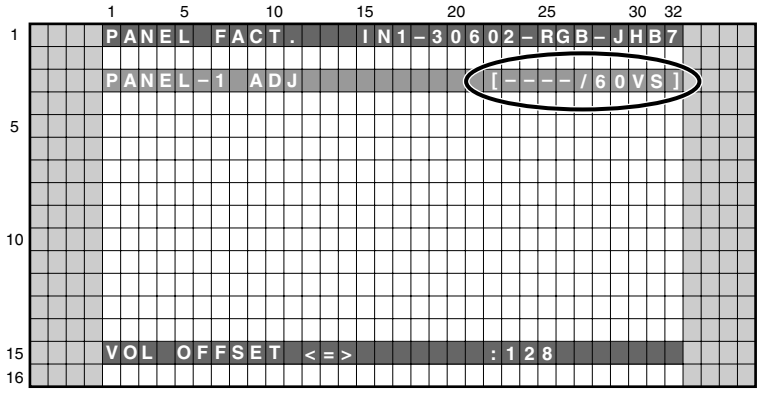
7.5 ADJUSTMENTS WHEN THE SERVICE PANEL ASSY IS REPLACED

■ Flowchart for panel replacement

After replacing the panel with one for service, readjustment of the Vofs voltage margin is required.

[Preparations]

- Basically, the Panel Factory menu is used for the voltage margin adjustment.
- The 60-Hz video sequence is used as the drive sequence.
- While adjusting the voltage margin using the Panel Factory menu, the current drive sequence is indicated on the screen, as shown below. Make sure that "60VS" is always indicated during adjustment.



Example of the OSD while the Panel Factory menu is displayed

[Supplement]

- When the raster mask for margin adjustment is displayed during Panel Factory mode, the Panel White Balance is set to default, and the Panel Gamma is set to Straight in the "PANEL-1 ADJ" layer.
  On the third line, the OSD reads "- - - - /****" (**** stands for the type of the drive sequence set).

- If you perform adjustment using RS-232C commands, use the commands shown below.
  These commands are different from those used during Factory Menu mode.

  PAV S00 : Used to set the Panel Drive mode to Factory.
  VFQ S03 : Used to set the Drive Sequence to Video 60 Hz.
  WBI S01 : Used to temporarily set the adjustment value of the Panel WB to default. (To return the value to its original value, use WBI S00.)
  PGM S00 : Used to set the gamma setting to Factory.

Note: If the power is shut off in the process of the adjustment procedures, send the above commands again.

OUTLINE

Mode switching

Switch modes to start the voltage adjustment, as follows:

Enter Factory mode.
Display RST MASK 01 (white).

FAY
MKS S51

Voltage setting

Set Vsus and Vyprst, and tentatively set Vofs:

VOL SUS : Set to 137 (205[V]).
VOL RST P : Set to the voltage indicated on the panel label.
VOL OFFSET : Tentatively set to the voltage indicated on the panel label.

VSU137
VRP***
VOF***

Aging

Perform aging with the fully white screen for 30 minutes

To prevent an error caused by the temperature characteristics and to let the unit show its full properties after letting it sit, perform aging for 30 minutes to raise the panel temperature to a certain extent. This ensures the accuracy of inspection and adjustment.

Actual Vofs adjustment (② to ④)

Measuring the upper limit of Vofs

Signals to be measured: red 760, red 1023+, green 1023, and blue 1023

Vofs setting

In a case where the upper limit of Vofs is less than 49:
Vofs set voltage = Upper limit value of Vofs - 9 [V]

In a case where the upper limit of Vofs is 49 or more:
Vofs set voltage = 40 [V]

CA check with black

With the black mask displayed, check if there are stationary or horizontally moving lit cells.

Confirmation of settings

Check that each voltage value is correctly set.

Command transfer

After the voltage adjustment is finished, make the following settings:

Mask: OFF, Factory: OUT

CA check

Check that the picture is properly displayed.

Use DVD, LD, and broadcast signals for checking.

Ranges of the adjustable voltages
(Ranges of the adjustable voltage when the upper and lower limits of each voltage are to be checked in this flowchart)

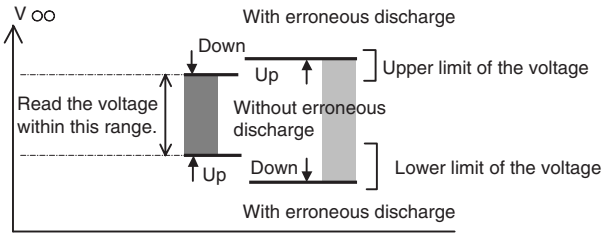
Vsus = 205 [137] [V]
Vofs = 15 [005] to 60 [246] [V]
Vyprst = 250 [013] to 300 [128] [V]
Vxnrst = 180 [V]
Vh = 130 [V]
Vadr = 60 [V]

Ranges of the voltage settings
(Ranges of voltage settings for this unit)

Vsus = 205 [137] [V]
Vofs = 28 [075] to 48 [182] [V]
Vyprst = 260 [036] to 300 [128] [V]
Vxnrst = 170 [V]
Vh = 130 [V]
Vadr = 60 [V]

When calculating the voltage, **round off the fractional part**.
(For circuit protection, it is desirable to set the voltage to a lower value.)

For margin measuring, be sure to read the value within the hysteresis (stricter value).



The Definition of Abnormal Cells
Abnormal bright cells: Within five cells on screen.
(fewer than 2 cells within a radius of 1 cm)

Abnormal dark cells: Under fifteen cells on screen.
(fewer than 2 cells within a radius of 1 cm)

Count abnormal cells at a distance of 1 m from panel.
If abnormal cells won't occur longer than one second, do not count the abnormal cells.
Do not count still dark cells and bright cells.

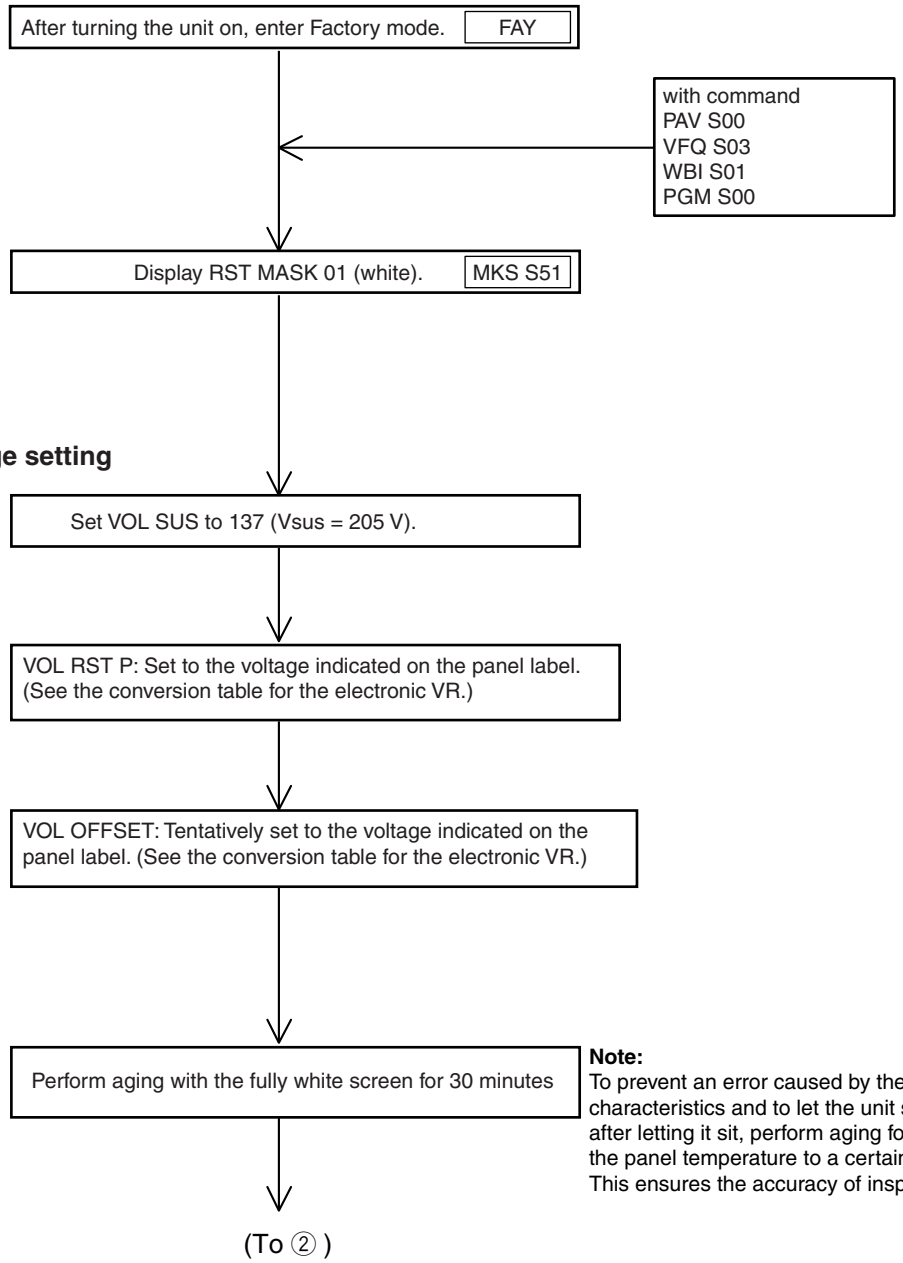
Standard settings of the unit at shipment:

Vsus setting = 205 [137] [V]
Vsus margin = 17 [V] or more
Vofs setting = 28 [075] to 48 [182] [V]
Vofs margin = 19 [V] or more
Vyprst setting = 260 [036] to 300 [128] [V]

Note: The voltages in the flowcharts are given in absolute values (without ±).

① Preparations

Initial setting



Voltage setting

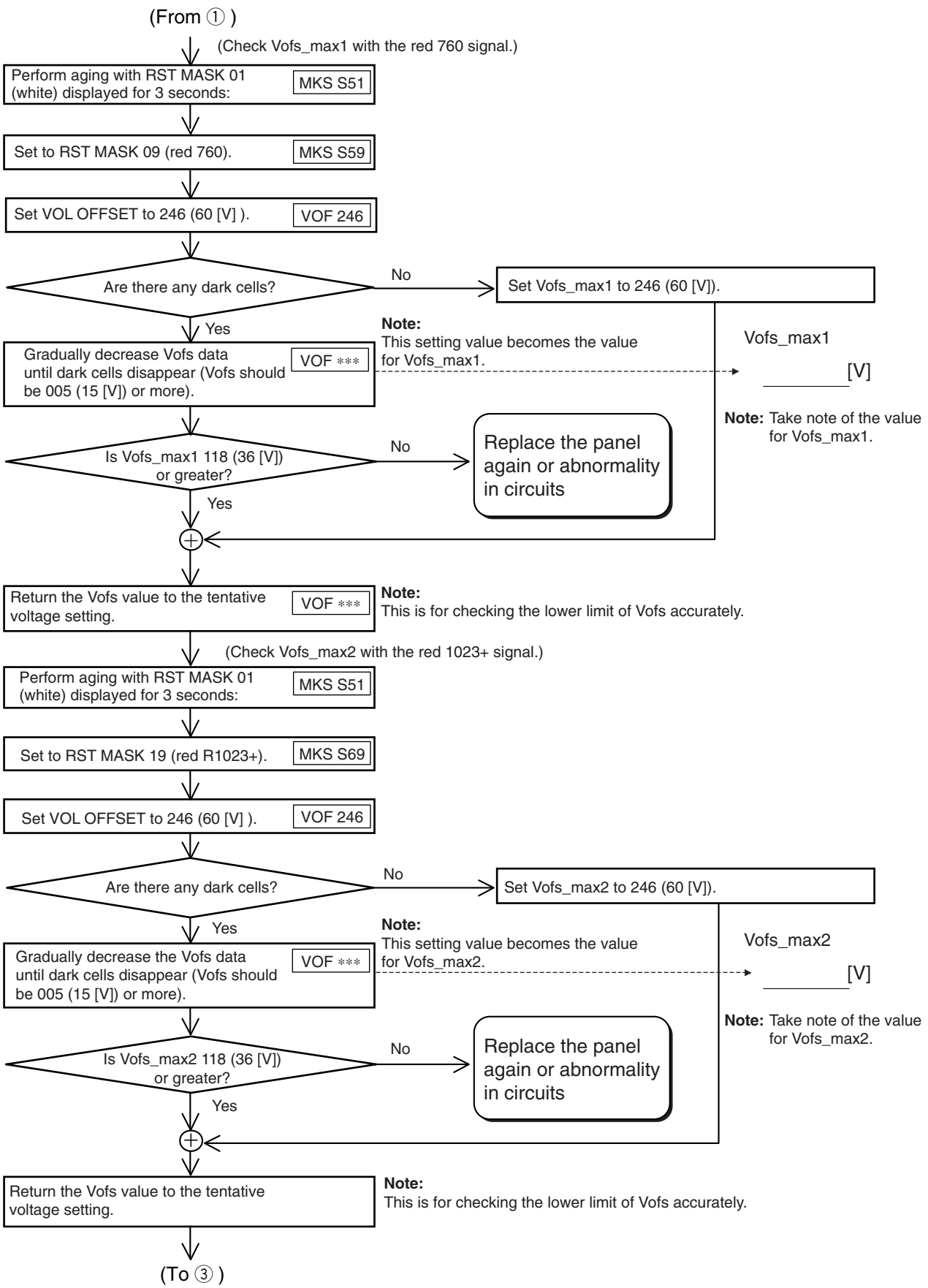
Set VOL SUS to 137 (Vsus = 205 V).
VOL RST P: Set to the voltage indicated on the panel label.
(See the conversion table for the electronic VR.)
VOL OFFSET: Tentatively set to the voltage indicated on the
panel label. (See the conversion table for the electronic VR.)

Aging

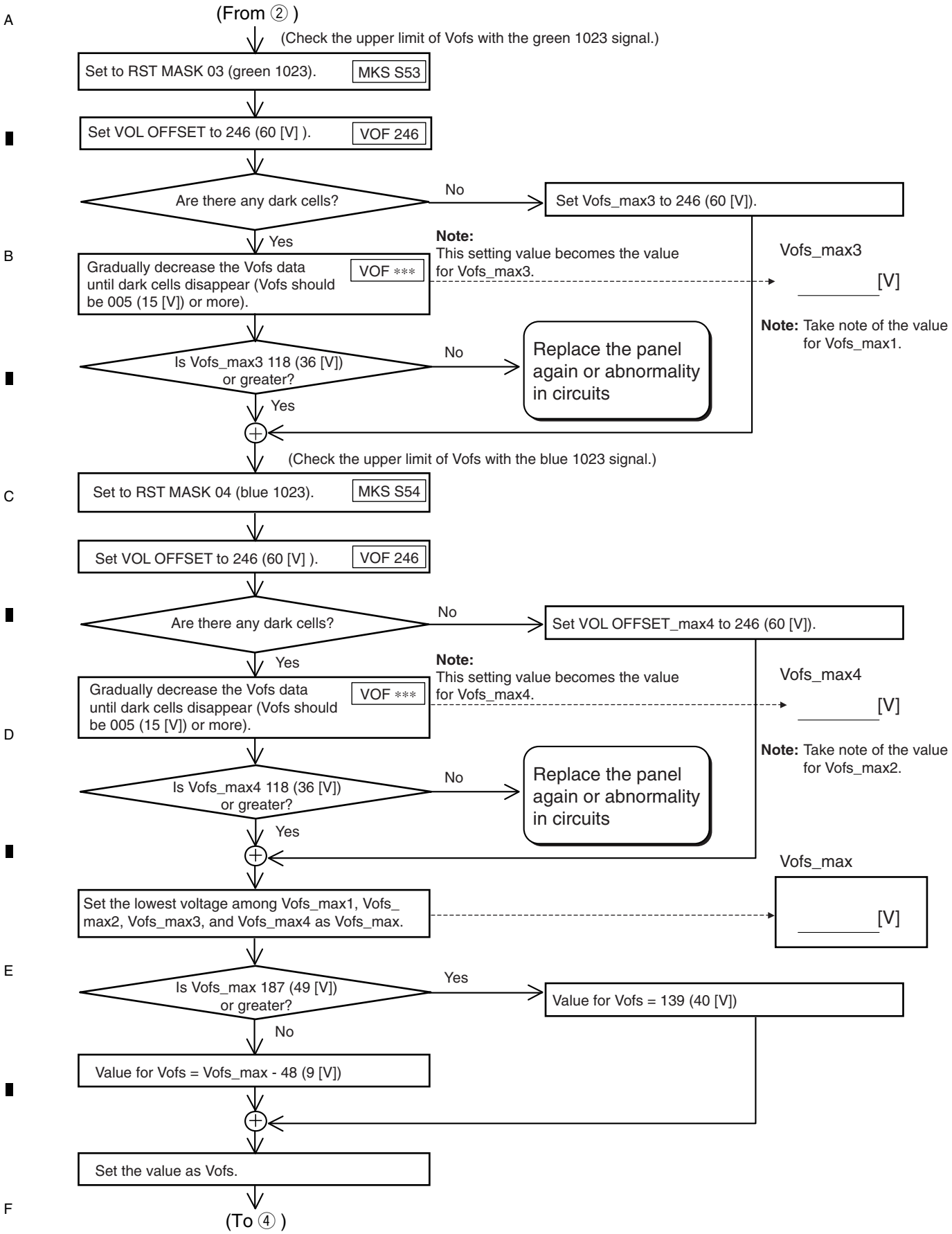
Note:
To prevent an error caused by the temperature characteristics and to let the unit show its full properties after letting it sit, perform aging for 30 minutes to raise the panel temperature to a certain extent.
This ensures the accuracy of inspection and adjustment.

(To ②)

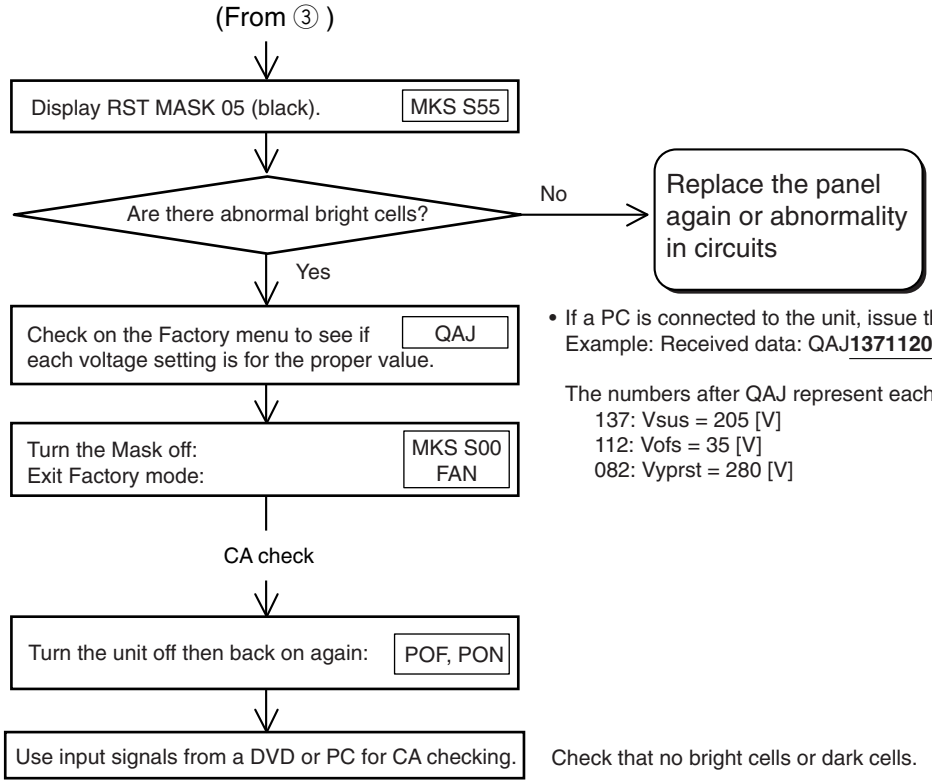
② Actual Vofs adjustment (1)


(From ①)
(Check Vofs_max1 with the red 760 signal.)
Perform aging with RST MASK 01 (white) displayed for 3 seconds:
MKS S51
Set to RST MASK 09 (red 760).
MKS S59
Set VOL OFFSET to 246 (60 [V]).
VOF 246
Are there any dark cells?
No
Set Vofs_max1 to 246 (60 [V]).
Yes
Note:
This setting value becomes the value for Vofs_max1.
Gradually decrease Vofs data until dark cells disappear (Vofs should be 005 (15 [V]) or more).
VOF ***
Vofs_max1
[V]
Note: Take note of the value for Vofs_max1.
Is Vofs_max1 118 (36 [V]) or greater?
No
Replace the panel again or abnormality in circuits
Yes
Return the Vofs value to the tentative voltage setting.
VOF ***
Note:
This is for checking the lower limit of Vofs accurately.
(Check Vofs_max2 with the red 1023+ signal.)
Perform aging with RST MASK 01 (white) displayed for 3 seconds:
MKS S51
Set to RST MASK 19 (red R1023+).
MKS S69
Set VOL OFFSET to 246 (60 [V]).
VOF 246
Are there any dark cells?
No
Set Vofs_max2 to 246 (60 [V]).
Yes
Note:
This setting value becomes the value for Vofs_max2.
Gradually decrease the Vofs data until dark cells disappear (Vofs should be 005 (15 [V]) or more).
VOF ***
Vofs_max2
[V]
Note: Take note of the value for Vofs_max2.
Is Vofs_max2 118 (36 [V]) or greater?
No
Replace the panel again or abnormality in circuits
Yes
Return the Vofs value to the tentative voltage setting.
Note:
This is for checking the lower limit of Vofs accurately.
(To ③)

③ Actual Vofs adjustment (2)


(From ②)
(Check the upper limit of Vofs with the green 1023 signal.)
Set to RST MASK 03 (green 1023).
MKS S53
Set VOL OFFSET to 246 (60 [V]).
VOF 246
Are there any dark cells?
No
Set Vofs_max3 to 246 (60 [V]).
Yes
Note:
This setting value becomes the value for Vofs_max3.
Gradually decrease the Vofs data until dark cells disappear (Vofs should be 005 (15 [V]) or more).
VOF ***
Vofs_max3
[V]
Note: Take note of the value for Vofs_max1.
Is Vofs_max3 118 (36 [V]) or greater?
No
Replace the panel again or abnormality in circuits
Yes
(Check the upper limit of Vofs with the blue 1023 signal.)
Set to RST MASK 04 (blue 1023).
MKS S54
Set VOL OFFSET to 246 (60 [V]).
VOF 246
Are there any dark cells?
No
Set VOL OFFSET_max4 to 246 (60 [V]).
Yes
Note:
This setting value becomes the value for Vofs_max4.
Gradually decrease the Vofs data until dark cells disappear (Vofs should be 005 (15 [V]) or more).
VOF ***
Vofs_max4
[V]
Note: Take note of the value for Vofs_max2.
Is Vofs_max4 118 (36 [V]) or greater?
No
Replace the panel again or abnormality in circuits
Yes
Vofs_max
[V]
Set the lowest voltage among Vofs_max1, Vofs_max2, Vofs_max3, and Vofs_max4 as Vofs_max.
Is Vofs_max 187 (49 [V]) or greater?
Yes
Value for Vofs = 139 (40 [V])
No
Value for Vofs = Vofs_max - 48 (9 [V])
Set the value as Vofs.
(To ④)

④ Actual Vofs adjustment (3)


(From ③)
Display RST MASK 05 (black).
MKS S55
Are there abnormal bright cells?
No
Replace the panel again or abnormality in circuits
Yes
Check on the Factory menu to see if each voltage setting is for the proper value.
QAJ
Turn the Mask off:
Exit Factory mode:
MKS S00
FAN
CA check
Turn the unit off then back on again:
POF, PON
Use input signals from a DVD or PC for CA checking.

- If a PC is connected to the unit, issue the QAJ command to check each voltage.
  Example: Received data: QAJ**137112082**128128128128128304D

  The numbers after QAJ represent each voltage after adjustment, as follows:
  137: Vsus = 205 [V]
  112: Vofs = 35 [V]
  082: Vyprst = 280 [V]

Check that no bright cells or dark cells.

■ Conversion charts for electronic VRs (Vprst/Vofs)

Vprst [V]	Setting value [STEP]
250	013
251	015
252	018
253	020
254	022
255	024
256	027
257	029
258	031
259	034
260	036
261	038
262	040
263	043
264	045
265	047
266	050
267	052
268	054
269	056
270	059
271	061
272	063
273	066
274	068
275	070
276	073
277	075
278	077
279	079
280	082
281	084
282	086
283	089
284	091
285	093
286	096
287	098
288	100
289	102
290	105
291	107
292	109
293	112
294	114
295	116
296	119
297	121
298	123
299	126
300	128

Vofs [V]	Setting value [STEP]
15	005
16	011
17	016
18	021
19	027
20	032
21	037
22	043
23	048
24	054
25	059
26	064
27	070
28	075
29	080
30	086
31	091
32	096
33	101
34	107
35	112
36	118
37	123
38	128
39	134
40	139
41	144
42	150
43	155
44	160
45	166
46	171
47	176
48	182
49	187
50	192
51	198
52	203
53	208
54	214
55	219
56	224
57	230
58	235
59	240
60	246

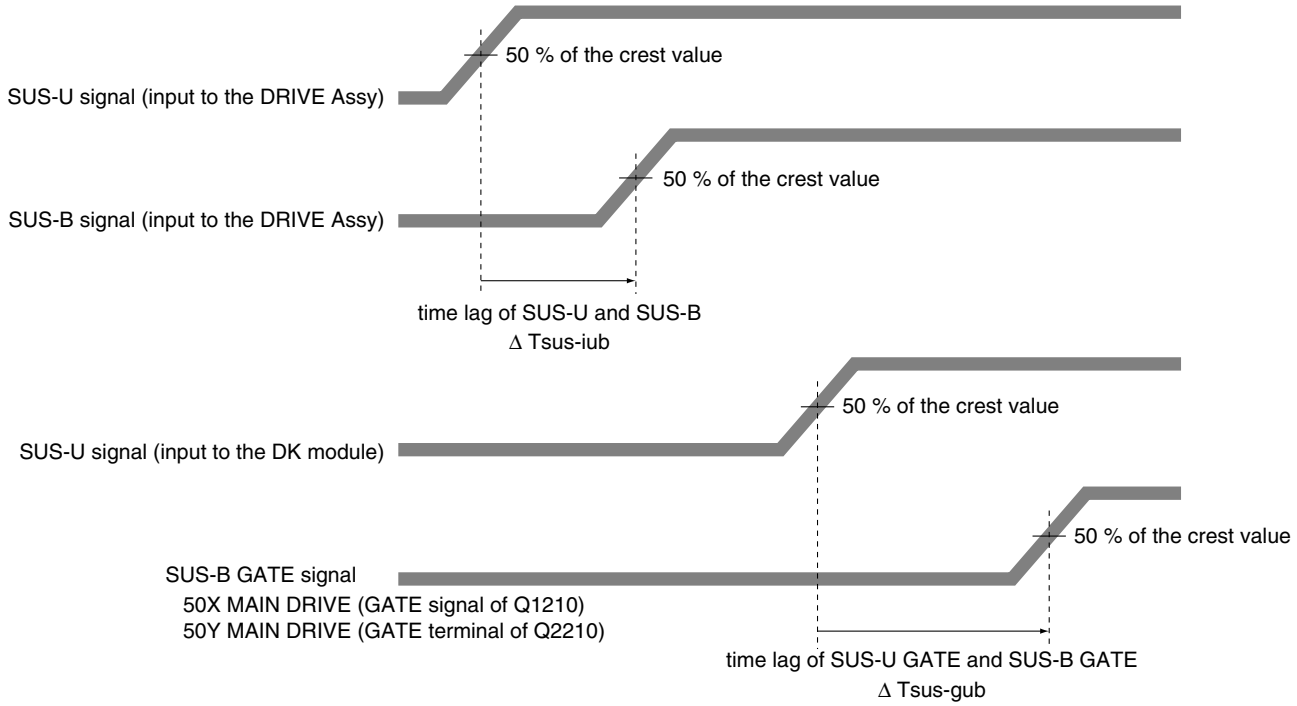
7.6 ADJUSTMENTS WHEN THE DRIVE ASSYS ARE REPLACED

■ Waveform adjustments required when replacing the following parts of the 50X MAIN DRIVE and 50Y MAIN DRIVE Assys.

Assy Name	Ref No.	Part Name	Part Category	Remarks
50X MAIN DRIVE Assy	IC1205	PS9117P	Photo Coupler	
	IC1204	TND307TD	FET Driver	
50Y MAIN DRIVE Assy	IC2104	TND307TD	FET Driver	
	IC2209	PS9117P	Photo Coupler	
	IC2208	TND307TD	FET Driver	

■ TIME LAG ADJUSTMENT OF THE CONTROL SIGNAL (SUS-B)

① Measure the time lag for the SUS-U signal to the SUS-B signal.
② Check the time lag for the SUS-B GATE signal to the SUS-U GATE siganl.
Adjust the variable control so that the time lag of GATE becomes " time lag of input signal + $\alpha \pm 5$ nsec."
Note: For details on measuring points of waveform, see the figure below.


50 % of the crest value
SUS-U signal (input to the DRIVE Assy)
50 % of the crest value
SUS-B signal (input to the DRIVE Assy)
time lag of SUS-U and SUS-B
Δ Tsus-iub
50 % of the crest value
SUS-U signal (input to the DK module)
50 % of the crest value
SUS-B GATE signal
50X MAIN DRIVE (GATE signal of Q1210)
50Y MAIN DRIVE (GATE terminal of Q2210)
time lag of SUS-U GATE and SUS-B GATE
Δ Tsus-gub

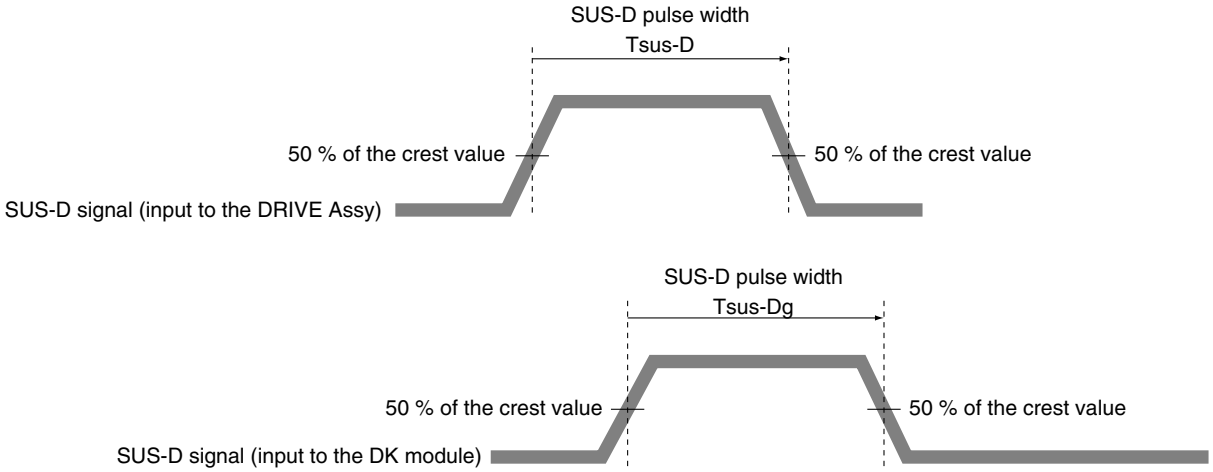
time lag of SUS-U gate and SUS-B gate : Δ Tsus-gub
Adjust so that "Δ Tsus-gub = Δ Tsus-iub + $\alpha \pm 5$ nsec," using the variable controls shown in the table below:

Assy	VR	Value of α
50X MAIN DRIVE ASSY	VR1001	70 nsec
50Y MAIN DRIVE ASSY	VR2001	50 nsec

DELAY ADJUSTMENT OF THE CONTROL SIGNAL (SUS-D)

① Measure the pulse width of the SUS-D signal.
② Check the pulse width of the SUS-D input signal for the DK module.
Adjust the variable control so that the pulse width of the SUS-D input signal for the DK module becomes the "pulse width of the SUS-D signal ± 5 nsec."

Note: For details on measuring points of waveform, see the figure below.

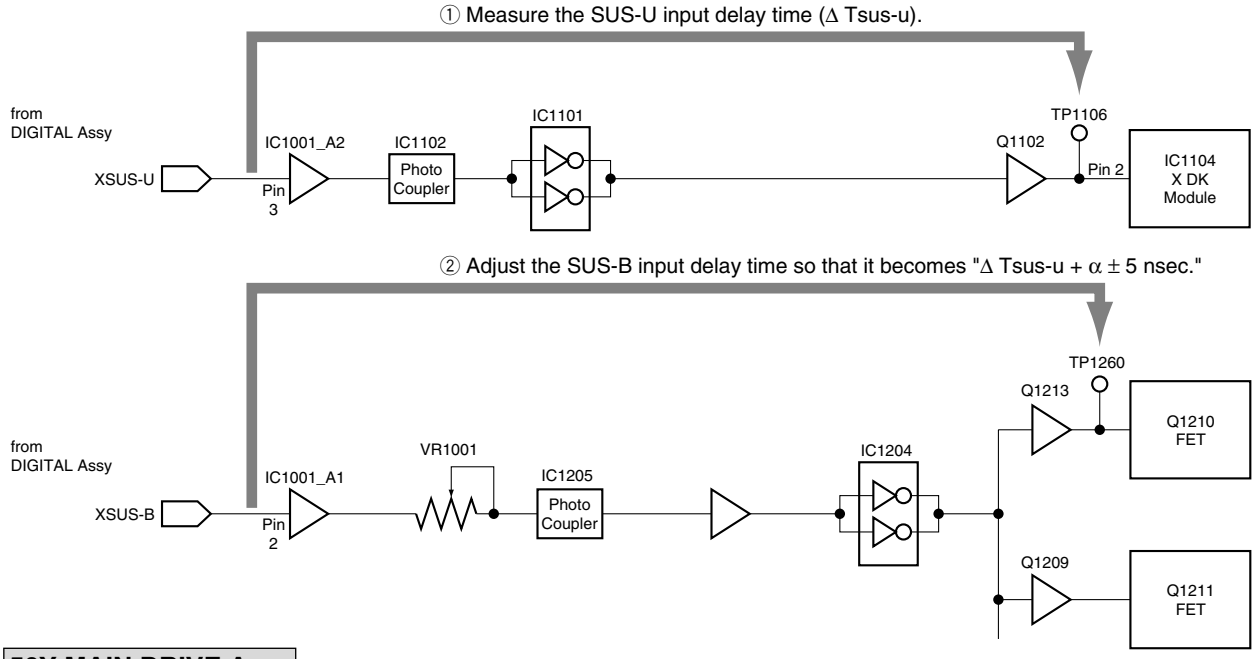

SUS-D pulse width
Tsus-D
50 % of the crest value
50 % of the crest value
SUS-D signal (input to the DRIVE Assy)
SUS-D pulse width
Tsus-Dg
50 % of the crest value
50 % of the crest value
SUS-D signal (input to the DK module)

SUS-D pulse width: Tsus-Dg
Adjust so that "Tsus-Dg = Tsus-D ± 5 nsec," using the variable control shown in the table below:

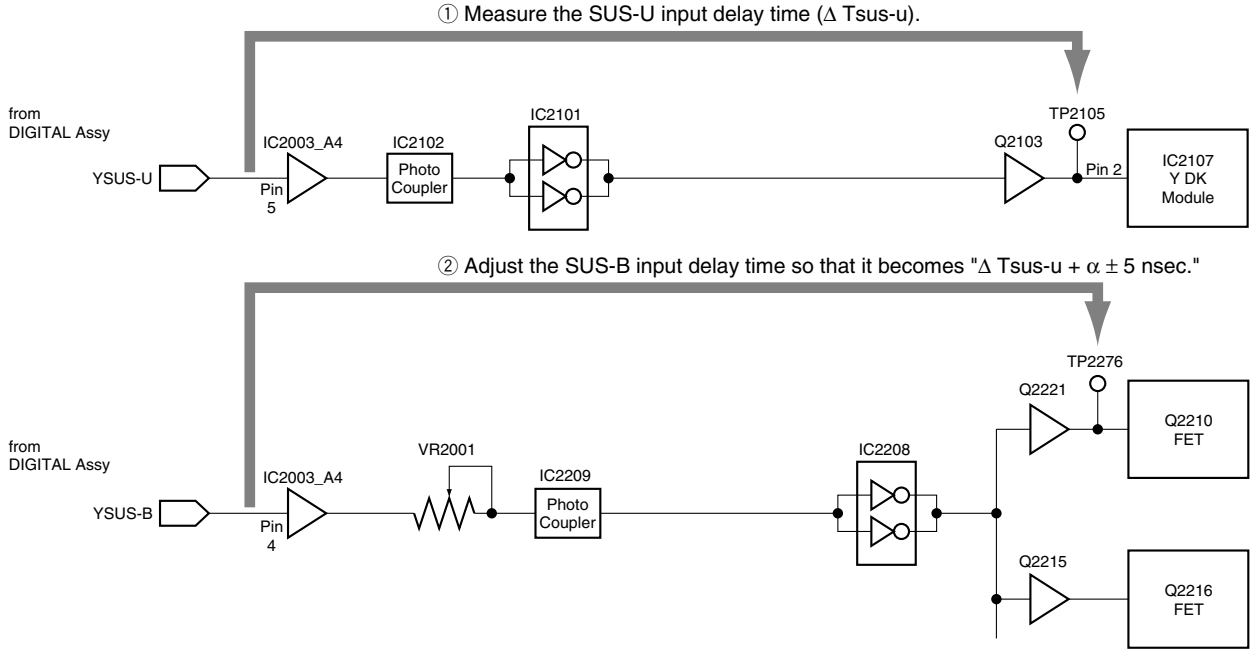
Assy	VR
Y MAIN DRIVE	VR2002

■ SUS-B ADJUSTMENT

50X MAIN DRIVE Assy



50Y MAIN DRIVE Assy



■ SUS-D ADJUSTMENT

50Y MAIN DRIVE Assy

① Measure the SUS-D pulse width (Tsus-D).
② Adjust the pulse width of the SUS-D input signal for the DK module so that it becomes "Tsus-D ± 5 nsec."
from DIGITAL Assy
YSUS-D
IC2002_A7
Pin 8
VR2002
IC2104
TP2107
Q2106
IC2107 Y DK Module

7.7 HOW TO CLEAR HISTORY DATA

■ Clearance of various logs after the Assys are replaced

Besides adjustment data, data on accumulated power-on time and logs on defective parts of the product are backed up. Some of those data must be cleared after the Assys are replaced for service.

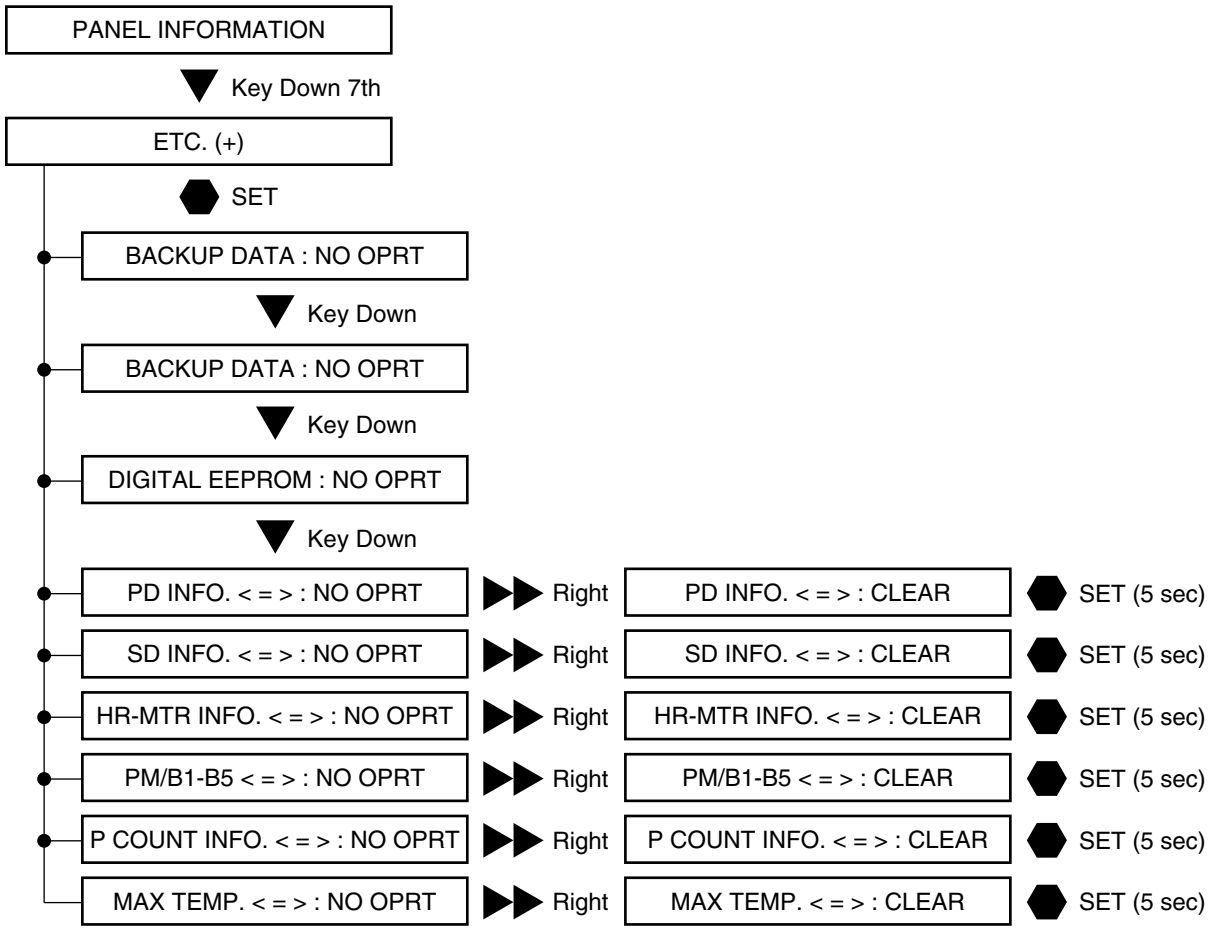
(1) Clearance of logs, using the RS-232C commands

Item	Content	When the Panel is replaced	When the POWER SUPPLY Unit is replaced	When the Other parts is replaced	RS-232C Commands
Hour-meter	Accumulated power-on time	Must be cleared	No need to be cleared	No need to be cleared	CHM
Pulse-meter	Accumulated number of pulses emitted	Must be cleared (mandatory)	No need to be cleared	No need to be cleared	CPM
Shutdown history	Cause of an SD and hour-meter count	Must be cleared	No need to be cleared	No need to be cleared	CSD
Power-down history	Cause of an PD and hour-meter count	Must be cleared	No need to be cleared	No need to be cleared	CPD
Power-on counter	Relay-on count	No need to be cleared	Must be cleared (mandatory)	No need to be cleared	CPC
MAX TEMP	Historical max. temperature	Must be cleared	Must be cleared	Must be cleared	CMT

Notes: • As the pulse-meter count is used for each correction function, it must be cleared when an Assy relevant to correction functions is replaced.
• When clearing logs, using the RS-232C commands, first enter Factory mode (by issuing FAY or PFY), then issue the corresponding command.

(2) Clearance of logs, using the Factory menu

① Plug in the AC cord, press the Power switch on the unit to set it to ON, then enter Standby mode.
② Turn on the power, using the remote control unit, then enter Panel Factory mode.
Delete various logs, as shown in the figure below.

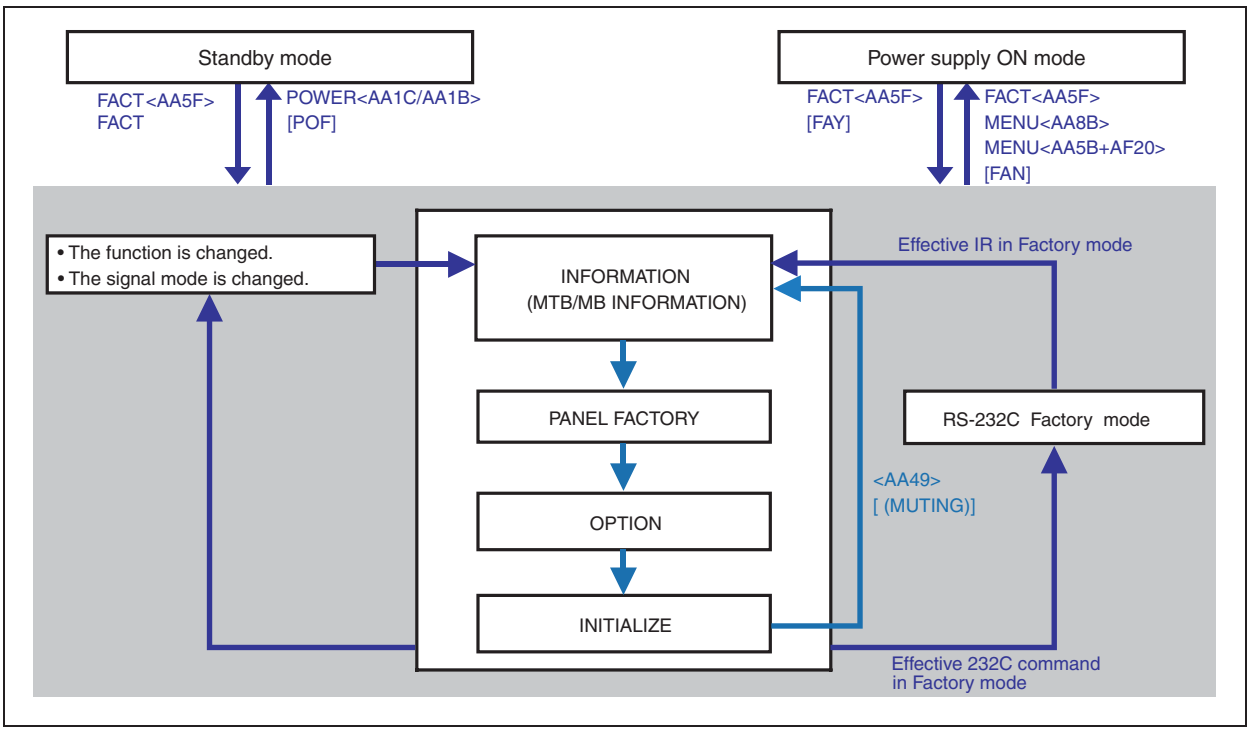


③ Turn the power off.

8. SERVICE FACTORY MODE

8.1 OUTLINE OF THE SERVICE FACTORY

8.1.1 SERVICE FACTORY MODE TRANSITION CHART



8.1.2 HOW TO ENTER/EXIT SERVICE FACTORY MODE

■ How to enter Service Factory Mode and do it go out.

■ How to enter Service Factory Mode.

By using a control unit for servicing)

- Service remote control : press[FACTORY1]key.

By using RS-232C commands)

- Standby mode : Send [PON]+[FAY] .
- Power supply ON mode : Send[FAY] .

■ How to come off Service Factory Mode.

By using a control unit for servicing)

- Service remote control : press [FACTORY1] key.
- Remote control : press [HOME MENU] key.

By using RS-232C commands)

- Send [FAN] .

8.1.3 OPERATION OF SERVICE FACTORY MODE

■ Fuctions whose setting are set to OFF

No.	Function	Remarks
1	2-Screen Operation	Input function set on the main side is selected
2	FREEZE	
3	Mask Control	MTB/MB is none. It becomes processing on the PANEL side.
4	ORBITER	Central value operation

■ User data

User data will be treated as follows :

- User data on picture-quality and audio-quality adjustments are not reflected, and factory-preset data are output (user data will be retained in memory). When the unit enters Service Factory mode, the current audio-quality adjustment data will be still be retained in memory.
- As to data on various settings, user data will be applied to the items that are associated with signal format change (screenize switching, etc).
- Data on screen (i.e., screen position; meaning clock dividers, and not including data on screen size). Are reset to the default values (data stored in memory will be retained). Screen size will be retained.

8.1.4 REMOTE CONTROL CODE

SR/R Keys	Basic Functions	Remarks
MUTING	Switching the main items.	Shifting to the next main item (top).
⬇ (DOWN) (Note1)	Switching the subtitled items.	Shifting downward to the next subtitiled item.
⬆ (UP) (Note1)	Switching the subtitled items.	Shifting upward to the next upper layer.
⬅ (LEFT) (Note1)	Decreasing the adjustment value.	Decreasing the adjustment value.
➡ (RIGHT) (Note1)	Increasing the adjustment value.	Increasing the adjustment value.
ENTER/SET (Note1)	Switching the layers.	Shifting downward or upward to the next lower or upper layer.
INPUT	Selecting INPUT.	Shifting the INPUT to the next function.
INPUTxx (Note1)	Selecting INPUT.	Switching the INPUT to xx. (xx=1 to 6 etc)
CH+/P+	Increasing the channel number.	Advanving
CH-/P-	Decreasing the channel number.	
Numeric Keys	Function: TV	Function: TV (previously selected channel number is selected)
POWER	Power OFF.	Turning the power off.
FACTORY	Factory OFF (Factory mode)	In Factory mode, turning Factory mode off.
	Factory ON (Non-Factory mode).	In Non-Factory mode, turn Fuctory mode on.
HOME MENU (Note1)	Menu ON.	In Factory mode, turn Factory mode off.
VOLUME+	Volume UP.	Increasing 10 the adjustment value. (PANEL FACTORY)
VOLUME-	Volume DOWN.	Decreasing 10 the adjustment value. (PANEL FACTORY)
DRIVE ON/OFF (Note2)	Drive Mode OFF.	Turning Drive mode off.
INTEGRATOR (Note1)	INTEGRATOR MENU ON.	Enter INTEGRATOR MODE.

(Note 1) A pertinent key that exists in the service remote control becomes effective only in the factory mode and the integrator mode. Please use the remote control of the attachment when you normally operate it in the mode (home menu operation etc.).

(Note 2) When ten seconds have passed since the [DRIVE ON/OFF] key was pressed at the standby, it becomes invalid. Please press [POWER] key from the [DRIVE ON/OFF] key pressing within ten seconds when you do power supply ON while driven OFF.

Remote control unit for Servicing

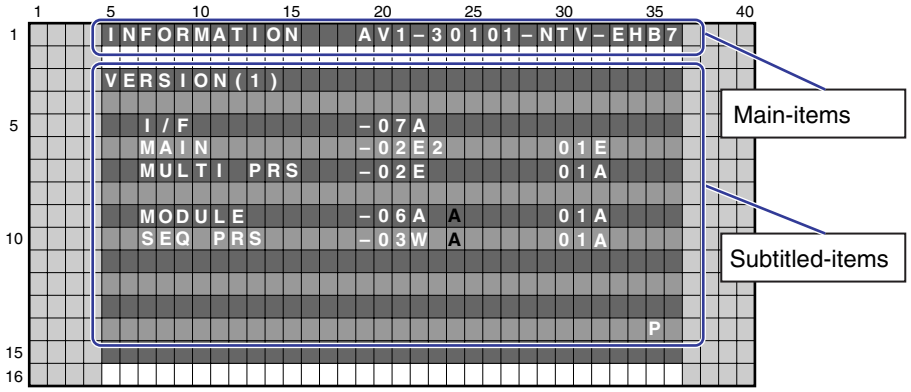
PDP-507XD

PDP-507XA

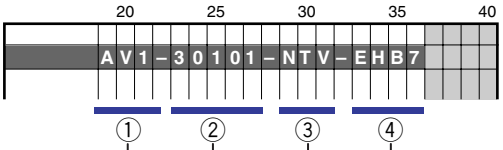
8.1.5 FACTORY HIERARCHICAL TABLE

Large Item	Middle Item	Small Item	Variable / Adjustment Range	Remarks
8.2.1 INFORMATION				
	8.2.1.1 VERSION (1)			
	8.2.1.2 VERSION (2)			
	8.2.1.3 MAIN NG	CLEAR <=>	OFF <=> ON	
	8.2.1.4 TEMPERATURE			
	8.2.1.5 HOUR METER			
	8.2.1.6 HDMI SIGNAL INFO 1			
	8.2.1.7 HDMI SIGNAL INFO 2			
	8.2.1.8 VDEC SIGNAL INFO			
8.2.2 PANEL FACTORY (+)				
	8.2.2.1 PANEL INFORMATION			
	8.2.2.2 PANEL WORKS			
	8.2.2.3 POWER DOWN			
	8.2.2.4 SHUT DOWN			
	8.2.2.5 PANEL-1 ADJ (+)	X-SUS B <=>	120 to 136	Equivalent to XSB
		Y-SUS B <=>	120 to 136	Equivalent to YSB
		Y-SUSTAIL T1 <=>	120 to 136	Equivalent to YTG
		Y-SUSTAIL T2 <=>	120 to 136	Equivalent to YTB
		Y-SUSTAIL W <=>	120 to 136	Equivalent to YTW
		XY-RST W1 <=>	120 to 136	Equivalent to RSW
		XY-RST W2 <=>	120 to 136	Equivalent to RYW
		VOL SUS <=>	000 to 255	Equivalent to VSU
		VOL OFFSET <=>	000 to 255	Equivalent to VOF
		VOL RST P <=>	000 to 255	Equivalent to VRP
		SUS FREQ. <=>	MODE 1 to MODE 8	Equivalent to SFR
	8.2.2.6 PANEL-2 ADJ (+)	R-HIGH <=>	000 to 511	Equivalent to PRH
		G-HIGH <=>	000 to 511	Equivalent to PGH
		B-HIGH <=>	000 to 511	Equivalent to PBH
		R-LOW <=>	000 to 999	Equivalent to PRL
		G-LOW <=>	000 to 999	Equivalent to PGL
		B-LOW <=>	000 to 999	Equivalent to PBL
		ABL <=>	000 to 255	Equivalent to ABL
	8.2.2.7 PANEL REVISE (+)	R-LEVEL <=>	LV-0 to LV-7	Equivalent to RRL
		G-LEVEL <=>	LV-0 to LV-7	Equivalent to RGL
		B-LEVEL <=>	LV-0 to LV-7	Equivalent to RBL
	8.2.2.8 ETC. (+)	BACKUP DATA <=>	NO OPRT <=> TRANSFER or ERR	Equivalent to BCP
		DIGITAL EEPROM <=>	NO OPRT <=> DELETE/REPAIR	Equivalent to FAJ/UAJ
		PD INFO. <=>	NO OPRT <=> CLEAR	Equivalent to CPD
		SD INFO. <=>	NO OPRT <=> CLEAR	Equivalent to CSD
		HR-MTR INFO. <=>	NO OPRT <=> CLEAR	Equivalent to CHM
		PM/B1-B5 <=>	NO OPRT <=> CLEAR	Equivalent to CPM
		P COUNT INFO. <=>	NO OPRT <=> CLEAR	Equivalent to CPC
		MAX TEMP. <=>	NO OPRT <=> CLEAR	Equivalent to CMT
	8.2.2.9 RASTER MASK SETUP (+)	MASK OFF	<=> 48V <=> 50V <=> 60V <=> 60P <=> 70P <=> 72V <=> 75V <=>	Equivalent to MKS+S00
		RST MASK 01 <=>		Equivalent to MKS+S51
		• • •		• • •
		RST MASK 24 <=>		Equivalent to MKS+S74
	8.2.2.10 PATTEN MASK SETUP (+)	MASK OFF	<=> 48V <=> 50V <=> 60V <=> 60P <=> 70P <=> 72V <=> 75V <=>	Equivalent to MKS+S00
		PTN MASK 01 <=>		Equivalent to MKS+S01
		• • •		• • •
		PTN MASK 39 <=>		Equivalent to MKS+S39
	8.2.2.11 COMBI MASK SETUP (+)	MASK OFF	<=> 48V <=> 50V <=> 60V <=> 60P <=> 70P <=> 72V <=> 75V <=>	Equivalent to MKC+S00
		CMB MASK 01 <=>		Equivalent to MKC+S01
		• • •		• • •
		CMB MASK 10 <=>		Equivalent to MKC+S10
8.2.3 OPTION				
	8.2.3.1 EDID WRITE MODE <=>			Exclusively used for production line
	8.2.3.2 CH PRESET <=>			
8.2.4 INITIALIZE				
	8.2.4.1 SYNC DET (+)			for the technical analysis
	8.2.4.2 SG MODE <=>		SG OFF <=> • • •	
	8.2.4.3 SG PATTERN <=>		SG PATTERN <=> COLOR BAR 1 • • •	
	8.2.4.4 SIDE MASK LEVEL (+)	R MASK LEVEL <=>	000 to 255	
		G MASK LEVEL <=>	000 to 255	
		B MASK LEVEL <=>	000 to 255	
	8.2.4.5 FINAL SETUP (+)	DATA RESET <=>	OFF <=> ON	
	8.2.4.6 CVT AUTO <=>			Exclusively used for technical analysis (details omitted)
	8.2.4.7 HDMI INTR POSITION (+)	INTR-POS1 (0x75) <=>	000 to 255	
		INTR-POS2 (0x76) <=>	000 to 255	
		INTR-POS3 (0x77) <=>	000 to 255	
		INTR-POS4 (0x78) <=>	000 to 255	

8.1.6 INDICATIONS IN SERVICE FACTORY MODE



■ Main-item indications



① Input function

Input Functions	OSD
AV 1 to 4	AV 1 to 4
AV 5	AV5
Terrestrial Analog Wave	AIR
Terrestrial Digital Wave	ARD
Cable	CBL
PC	PC

② SIG mode and Screen size

Note: See SIG-Mode Tables. (See next page.)

③ Color system and Signal type

Color System and Signal Type	OSD1	OSD2
NTSC	NTV	NTS
PAL	PLV	PLS
PAL M	PMV	PMS
PAL N	PNV	PNS
SECAM	SCV	SCS
4.43 NTSC	4NV	4NS
BLACK/WHITE	BWV	BWS
Y/CB/CR	CBR	
Y/PB/PR	PBR	
RGB	RGB	
Digital Video signal	DIG	

Note: OSD1 (Composite input), OSD2 (S-Connector input)

④ Option (Destination, Panel Generation, etc.)

Options	OSD
Step-up D system	EHB7
Step-up A system	ESB7

② SIG Mode and Screen size (by User is displayed)

1st and 2nd characters : Resolutin of the input signal
3rd and 4th characters : Refresh rate of the input signal
5th character : Selection of the screen size

■ Input signal mode table for video signals (resolutions and V frequencies)

1st to 4th Character		Signal Type	Fv (Hz)	Fh (kHz)
10	50	SDTV*525i	60.000	15.750
	60	SDTV*525i	60.000	15.750
20	50	SDTV*625p	60.000	31.500
	60	SDTV*525p	60.000	31.500
30	50	HDTV*1125i	60.000	33.750
	60	HDTV*1125i	60.000	33.750
40	50	HDTV*750p	60.000	45.000
	60	HDTV*750p	60.000	45.000
50	24	HDTV*1125p	24.000	27.000

Fv: Vertical Frequency, Fh: Horizontal Frequency

■ Input signal mode table for PC signals (resolutions and V frequencies)

1st to 4th Character		Signal Type	Fv (Hz)	Fh (kHz)
C1	70	720 x 400	70.087	31.469
C2	60	640 x 480	59.940	31.469
	72		72.809	37.861
	75		75.000	37.500
C4	56	800 x 600	56.250	35.1556
	60		60.317	37.879
	72		72.188	48.077
	75		75.000	46.875
C7	60	1024 x 768	60.004	48.363
	70		70.069	56.476
	75		75.029	60.023
C9	60	1360 x 768	60.015	47.712

Fv: Vertical Frequency, Fh: Horizontal Frequency

■ Current selection of the screen size

5th Character	GUI Notation	VIDEO	PC	Remarks
0	DOT BY DOT	–	●	
1	4:3	●	●	
2	FULL (FULL1)	●	●	
3	ZOOM	●	–	
4	CINEMA	●	–	
5	WIDE	●	–	
6	FULL 14:9	●	–	
7	CINEMA 14:9	●	–	
8	FULL2	–	●	

●: supported, –: unsupported

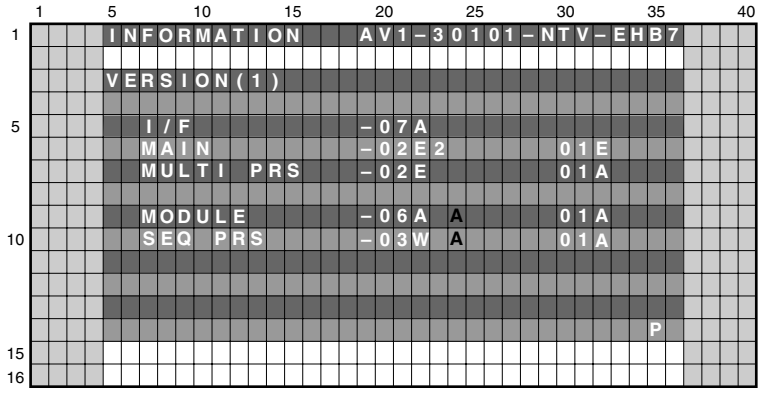
8.2 FACTORY MENU

8.2.1 INFORMATION

● **Operation items**

No.	Function/Display	Context	RS-232C Command
1	VERSION (1)	The software versions for each microcomputer are displayed. (Common part)	QS1
2	VERSION (2)	The Flash memory versions for each device are displayed. (Individual part)	QS6
3	MAIN NG	The Shutdown Message ID/Event Times in Main Microcomputer are displayed.	QNG
4	TEMPERATURE	The Temperature/FAN rotating status in Main Microcomputer are displayed.	QMT
5	HOUR METER	The HOUR METER/P-COUNT information are displayed.	QIP
6	HDMI SIGNAL INFO 1	The Information of HDMI information files are displayed.	–
7	HDMI SIGNAL INFO 2		
8	VDEC SIGNAL INFO	Display the Signal Information on VDEC.	–

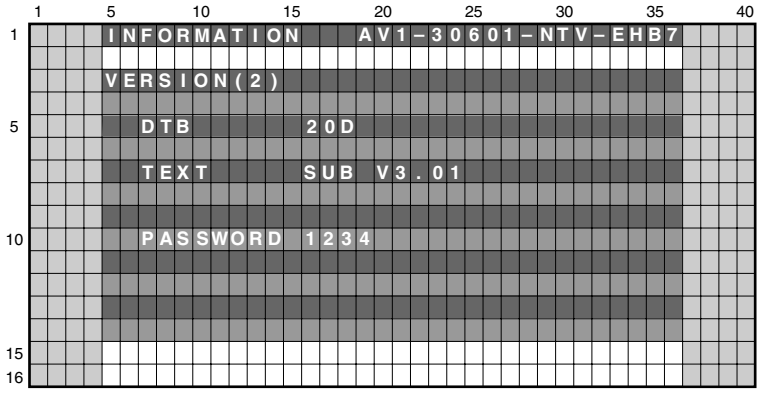
8.2.1.1 VERSION (1)



Microcomputer	Item Name	Display Example (Execution program block)	Display Example (Boot block)
I/F microcomputer	I/F	-07A	–
Main microcomputer	MAIN	-02E2	01E
Multi processor	MULTI PRG	-02E2	01A
Module microcomputer	MODULE	-06A_A	01A
Sequence processor	SEQ PRS	-03W_A	01A

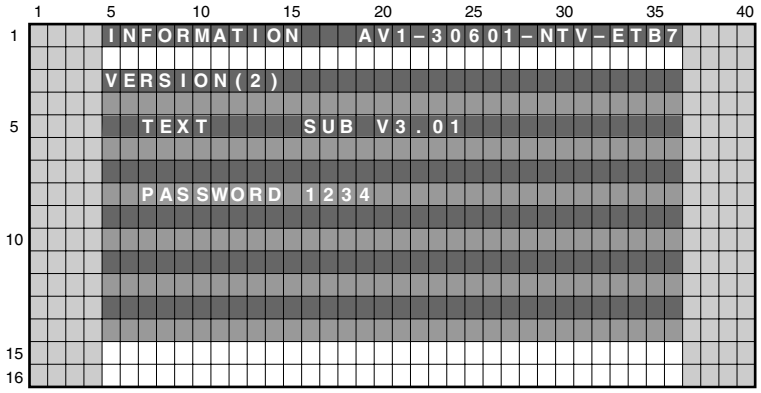
Note: In the 29-32 rows, the Boot version information on each device is displayed.
In the 19-24 rows, the version of the execution program is displayed.
At the position "14x35", The Past/Highly effective panel distinction information is displayed.

8.2.1.2 VERSION (2)



Step-up D

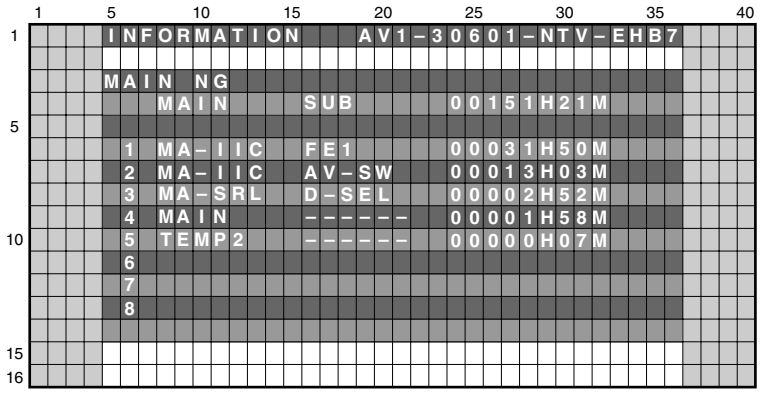
Flash Device	Item Name	Display Example
Digital Tuner	DTB	20D
TeleTEXT	TEXT	SUB V3.01
User Password	PASSWORD	1234



Step-up A

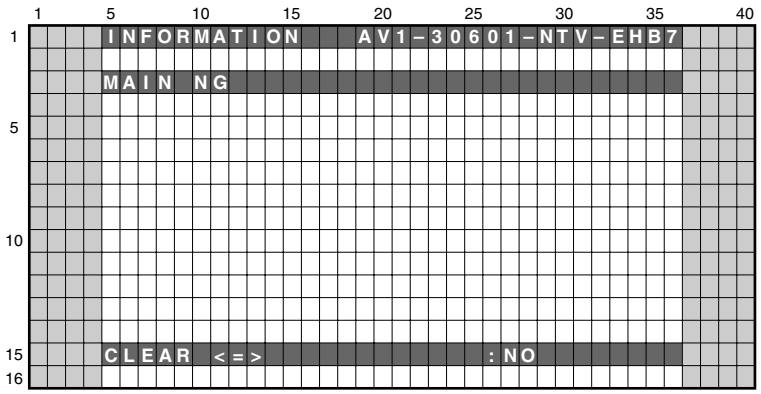
Flash Device	Item Name	Display Example
TeleTEXT	TEXT	SUB V3.01
User Password	PASSWORD	1234

8.2.1.3 MAIN NG



MTB side's Shutdown NG information

OSD: MAIN	OSD: SUB	Cause of Shutdown
AUDIO	----	
MODULE	----	Failure of communication to Module microcomputer.
MA-SRL		3-wire Serial Communication of Main microcomputer.
	IF	Communication failure of IF microcomputer
	MULTI1	Multi Processor communication failure (MULIT1)
	I/P	Multi Processor communication failure (I/P)
	D-SEL	Multi Processor communication failure (D-SEL)
MA-IIC		IIC Communication failure of Main microcomputer
	FE1	Analog Tuner 1 (Front End 1)
	MPX	MPX
	AUDIO	
	AV-SW	AV Switch
	RGB-SW	RGB Switch
	M-VDEC	Main VDEC
	S-VDEC	Sub VDEC
	ADC	AD/PLL
	HDMI	HDMI
	TX-COM	TX communication failure
	TX-BSY	TX Busy
	MA-EEP	64k EEPROM
MAIN		Communication failure of Main microcomputer &Unknown Error
FAN		Fan stopped
TEMP2		Abnormally high temperature at MTB.
DTUNER		Failure of Digital Tuner
	PS/RST	Failure to DTB Starting
	RETRY	DTB communication failure.
MA-PWR	M-DCDC	Abnormally in RST2 of MTB. (power decrease of DC-DC converter)
	RELAY	Relay Power Supply

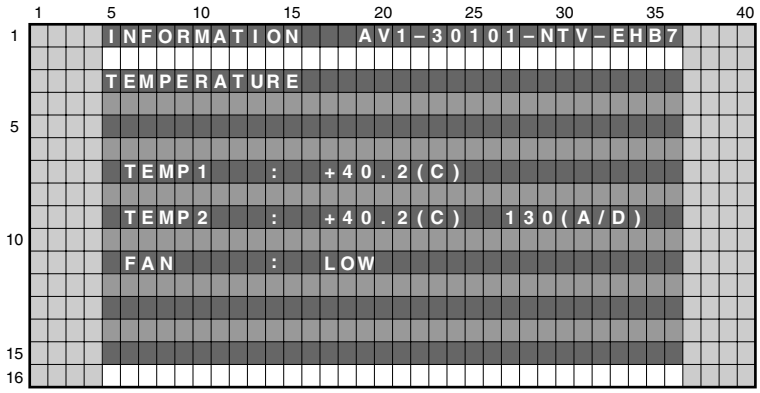


Operation:

Even if [⬅] key or [➡] key is pressed, "CLEAR ⇔ YES" ⇔ "CLEAR ⇔ NO" is repeated.
If the [ENTER] key is kept on pressing for 5 second when the status of this menu is <YES>, clear process will begin.

8.2.1.4 TEMPERATURE

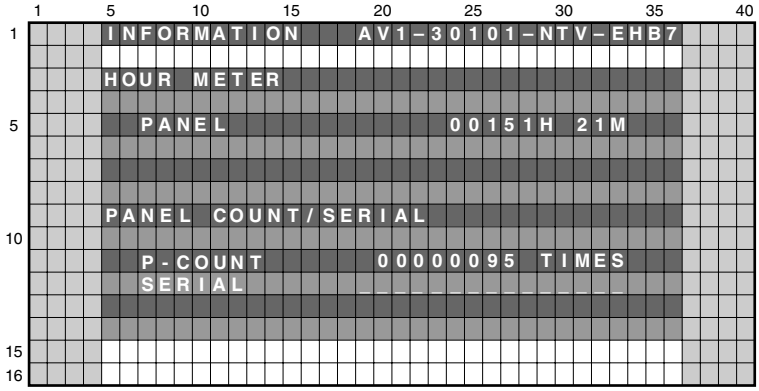
A present temperature and the FAN rotation are displayed.
If either [⬅] key or [➡] key is pressed, the display data is refreshed.



• Display/Meaning

TEMP1 : The temperature of the sensor on the panel side is displayed by the centigrade.
TEMP2 : The temperature conversion display is done with 10bit the A/D input value of Main uCON 76 pin (AN0). It is displayed by both the centigrade (C) and 8bit A/D value.
(Remark:When temperature (C) of the sensor becomes more than a specified temperature, the shutdown start of processing.)
FAN : The value of the Fan rotating state is displayed.
STOP : stopped, LOW: slow speed, HIGH: high speed.

8.2.1.5 HOUR METER

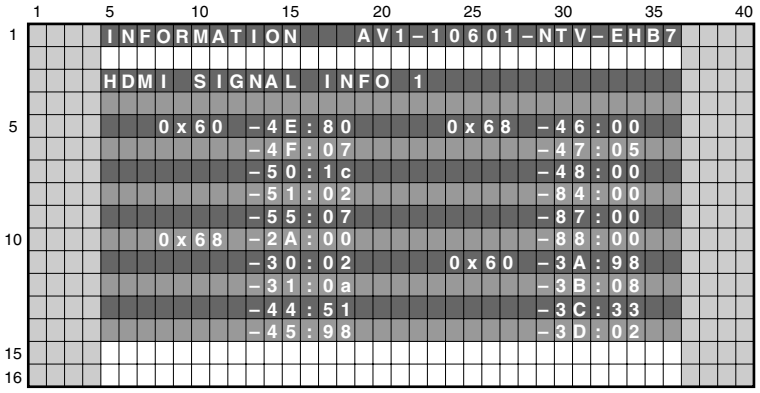


• Display/Meaning

Meaning	Item Name	Display Example	Corresponding RS-232C Command
HOUR METER (PANEL)	PANEL	00151H 21M	QIP
POWER ON COUNTER	P-COUNT	00000095 TIMES	QIP
SYSTEM SERIAL	SERIAL		QIP

Note 1: The SYSTEM SERIAL displays only FHD. It corresponds by sticking the seal in G7 model.
Note 2: The PANEL-side's HOUR METER/P-COUNT acquires information from the PANEL-side.

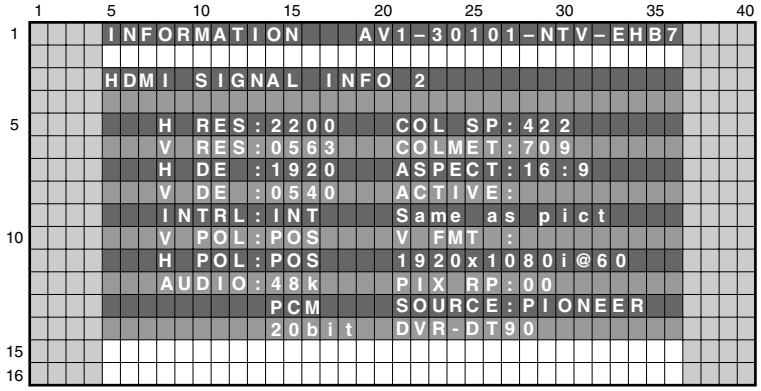
8.2.1.6 HDMI SIGNAL INFO (1)



Displays the input signal information of HDMI terminal

Device	SA	Context
0×60	-4E:	Video information: valid horizontal pixel numbers (low order bit)
	-4F:	Video information: valid horizontal pixel numbers (high order bit)
	-50:	Video information: valid vertical line numbers (low order bit)
	-51:	Video information: valid vertical line numbers (high order bit)
	-55:	Video information: interlace/non-interlace, sink polarity
0×68	-2A:	Audio information: PCM/non PCM, copyright protected or not
	-30:	Audio information: sampling frequency
	-31:	Audio information: sampling bit rate
	-44:	Audio information: color space
	-45:	Video information: aspect ratio
	-46:	Video information: scaling
	-47:	Video information: video format
	-48:	Video information: pixel count
	-84:	Audio information: channel count
	-85:	Audio information: not used (zero at all times)
	-86:	Audio infromation: not used (zero at all times)
	-87:	Audio information: speaker allocation
	-88:	Audio information (down mix prohibit flag)
0×60	-3A:	Video information: valid horizontal pixel numbers (low order bit)
	-3B:	Video information: valid horizontal pixel numbers (high order bit)
	-3C:	Video information: valid vertical line numbers (low order bit)
	-3D:	Video information: valid vertical line numbers (high order bit)

8.2.1.7 HDMI SIGNAL INFO (2)



Displays input signal status of MVDEC terminal

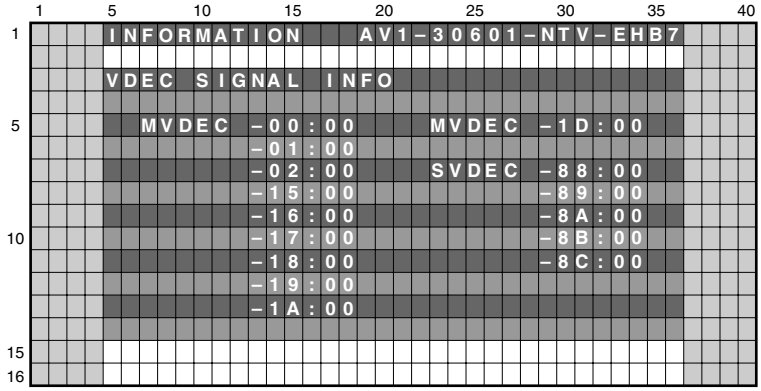
Display Item	Meaning
H RES	Number of horizontal pixels (decimal)
V RES	Number of vertical lines (decimal)
H DE	Number of effectively horizontal pixels (decimal)
V DE	Number of effectively vertical lines (decimal)
INTRL	Intetlace (=INT) or progressive (=PRG)
V POL	VSYNC polarity
H POL	HSYNC polarity
AUDIO (first line)	Sampling frequency. (ex. DVD: 48kHz, CD: 44.1kHz) *1
AUDIO (second line)	PCM (PCM) or No PCM (=no PCM)
AUDIO (third line)	Quantization bit
COL SP	Color space (AVI Info) (422 or 444 or RGB) *2
COLMET	Colormetry (AVI Info) (SD: 601, HD:709) *2
ASPECT	Aspect (AVI Info)
ACTIVE	Video active format (AVI Info)
V FMT	Video identification code (AVI Info)
PIX RP	Pixel repeat value for 2880 dot
SOURCE (first line)	Vendor name of the emission device
SOURCE (second line)	Model name of the emission device

*1: Please confirm whether to be displayed here when the sound is not emitted.
*2: There is a possibility of not suitable for the state of the source equipment when the color is amusing.

Display of HDMI FACTORY and correspondence of resolution
Please confirm the following 5 items when the picture doesn't come out.

Input Signal	FACTORY Display				
	H RES	V RES	H DE	V DE	V FMT
480i (525i)	858	262 or 263	720	240	720x480i @ 60
480p (525p)	858	525	720	480	720x480p @60
1080i (1125i)	2200	562 or 563	1920	540	1920x1080i @ 60
720p (750p)	1650	750	1280	720	1280x720p @ 60

8.2.1.8 VDEC SIGNAL INFO



Displays input signal status of VDEC terminal.

Device	SA	Context
MVDEC	00h	Signal distinction result 1
	01h	Signal distinction result 2
	02h	Flag detection output
	15h	Noise level distinction 1
	16h	Noise level distinction 2
	17h	Non-standard signal detection
	18h	Subcarrier signal detection
	19h	ACC data output
	1Ah	ACC information output
	1Dh	Input signal mode
SVDEC	88h	Status register 1 (TV/VCR status)
	89h	Status register 2 (Macrovision detection, etc.)
	8Ah	Status register 3 (Front-end AGC gain value)
	8Bh	Status register 4 (Subcarrier to horizontal (SCH) phase)
	8Ch	Status register 5 (Signal distinction)

8.2.2 PANEL FACTORY MODE

■ Operation Items

This is the menu screen for the adjustment of the panel. Data acquisition and value adjustment can be performed for the following items:

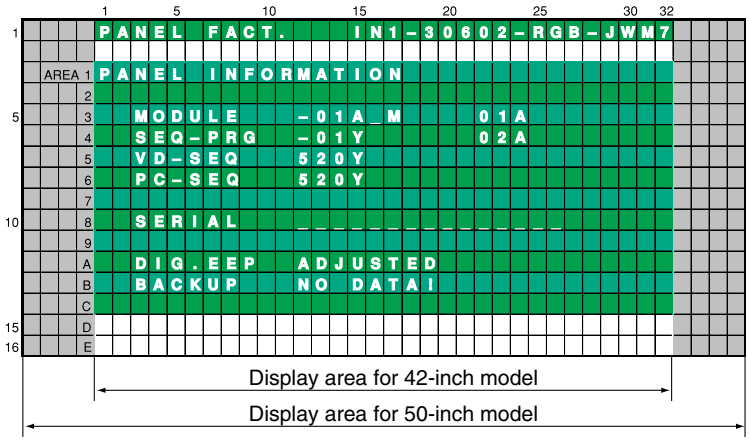
No.	Indication	Description of functions
8.2.2.1	PANEL INFORMATION	Data, such as the version of the microcomputer of the panel, product serial number, and statuses of memories for adjustment values for the main unit and for backup, are displayed.
8.2.2.2	PANEL WORKS	Operation data, such as accumulated pulse-meter count, accumulated hour-meter count, accumulated power-on count, and the temperature detected by the sensor, are displayed.
8.2.2.3	POWER DOWN	The power-down history is displayed, with the hour-meter values that indicate the hour values when power-downs occurred.
8.2.2.4	SHUT DOWN	The shutdown history is displayed, with the hour-meter values that indicate the hour values when shutdowns occurred.
8.2.2.5	PANEL-1 ADJ (+)	Settings of the driving pulse timing and driving voltage can be performed.
8.2.2.6	PANEL-2 ADJ (+)	White balance and ABL (power consumption) for the panel can be set.
8.2.2.7	PANEL REVISE (+)	The level for correction of panel degradation can be set.
8.2.2.8	ETC. (+)	Copying of backup data and clearance of various data can be performed.
8.2.2.9	RASTER MASK SETUP (+)	The mask indication (RASTER) can be set and indicated.
8.2.2.10	PATTEN MASK SETUP (+)	The mask indication (PATTERN) can be set and indicated.
8.2.2.11	COMBI MASK SETUP (+)	The mask indication (COMBI) can be set and indicated.

■ Details of indications in each layer

• In the following examples, GUI images for a 50-inch model are indicated. Although the display areas for the menu for 42-inch and 50-inch models are different, the items to be displayed are the same.

8.2.2.1 PANEL INFORMATION

• Data, such as the version of the microcomputer of the panel, product serial number, and statuses of memories for adjustment values for the main unit and for backup, are displayed. No other layers are nested below this layer, and there are no adjustment items.


PANEL FACT. IN1-30602-RGB-JWM7
AREA 1
PANEL INFORMATION
MODULE -01A_M 01A
SEQ-PRG -01Y 02A
VD-SEQ 520Y
PC-SEQ 520Y
SERIAL _ _ _ _ _ _ _ _ _ _ _ _ _ _ _
DIG.EEP ADJUSTED
BACKUP NO DATA!
Display area for 42-inch model
Display area for 50-inch model

■ Key operation

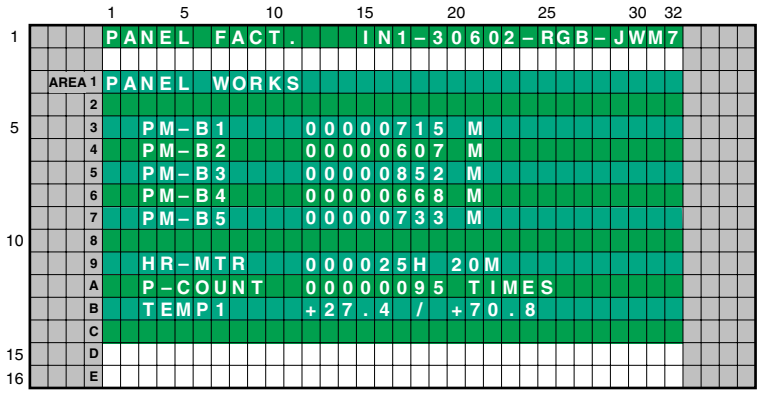
<DOWN> : Shifting to PANEL WORKS
<UP> : Shifting to COMBI MASK SETUP (+)
<L/R> : Updating displayed information

■ Display items:

MODULE : The version of data written in the Module microcomputer (IC3151) is indicated.
SEQ-PRG : The version of data written in the Sequence Program Storage Memory (IC3301) is indicated.
VD-SEQ : The Drive Sequence version for Video mode is indicated.
PC-SEQ : The Drive Sequence version for PC mode is indicated.
SERIAL : The serial number of the module is indicated.
DIG.EEP : The adjusted status of the EEPROM that is mounted on the DIGITAL Assy is indicated.
BACKUP : The adjusted status of the EEPROM for backup that is mounted on the SENSOR Assy is indicated.

8.2.2.2 PANEL WORKS

• Data on operations, such as the accumulated pulse-meter counts, hour-meter count, power-on count, and temperature detected by the sensor, are sent back. No other layers are nested below this layer, and there are no adjustment items.



■ Key operation

<DOWN> : Shifting to POWER DOWN
<UP> : Shifting to PANEL INFORMATION
<L/R> : Updating displayed information

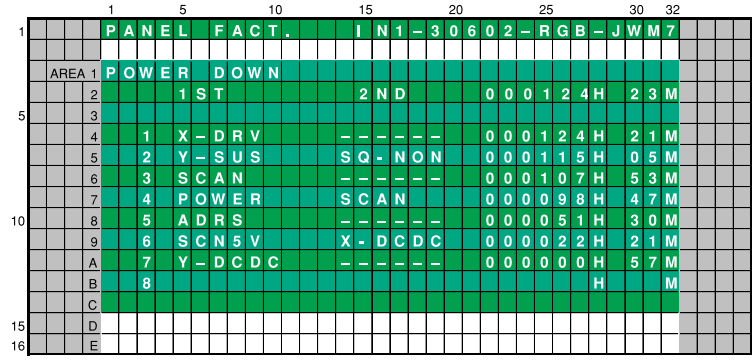
← Temperature unit is " °C (Centigrade) ".

■ Contents of the Display item

• PM-B1 to B5: The accumulated pulse-meter counts for the 5 blocks on the screen are indicated. (the lowest-order digit represents millions of pulses.)
• HR-MTR: The hour-meter value (accumulated power-on hours) is indicated.
• P-COUNT: The accumulated power-on count is indicated.
• TEMP1: The current panel temperature and the historical maximum temperature recorded in memory are indicated.
The range of temperature indication is from -50.0 to +99.9. (The temperature unit is " °C (Centigrade) ".)

8.2.2.3 POWER DOWN

- The power-down history is displayed. The last most 8 power-down histories are displayed with the hour-meter values that indicate the hours when power-downs occurred. No other layers are nested below this layer, and there are no adjustment items.


PANEL FACT. IN1-30602-RGB-JWM7
AREA 1 POWER DOWN
1ST 2ND 0001248H 23M
1 X-DRV ------ 0001248H 21M
2 Y-SUS SQ-NON 0001158H 05M
3 SCAN ------ 0001078H 53M
4 POWER SCAN 0000098H 47M
5 ADRS ------ 0000518H 30M
6 SCN5V X-DCDC 0000228H 21M
7 Y-DCDC ------ 0000000H 57M
8 H M

■ Key operation

<DOWN> : Shifting to SHUT DOWN
<UP> : Shifting to PANEL WORKS
<L/R> : Updating displayed information

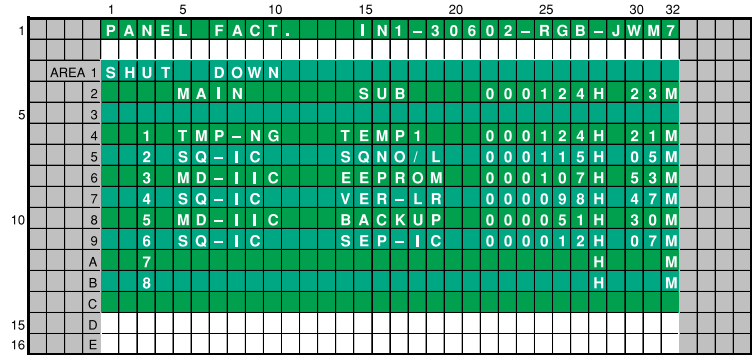
<Causes of power-down and corresponding OSD indications>

Cause of power-down	OSD Indication	Cause of power-down	OSD Indication
POWER SUPPLY Unit	P-PWR	ADDRESS Assy	ADRS
SCAN Assy	SCAN	X DRIVE Assy	XDRV
5V power for SCAN Assy	SCAN5V	DC/DC converter for X drive	X-DCDC
Y DRIVE Assy	YDRV	X-drive SUS circuit	X-SUS
DC/DC converter for Y drive	Y-DCDC	Specification inability	UNKNOWN
Y-drive SUS circuit	Y-SUS		

* When power-down is confirmed, the factor is displayed as "1st", "2nd", according to the accuracy order.
* The power-down history is not recorded when the power-down occurred at the same place and same time.

8.2.2.4 SHUT DOWN

- The shutdown history is displayed. The last most 8 shutdown histories are displayed with the hour-meter values that indicate the hours when shutdowns occurred. No other layers are nested below this layer, and there are no adjustment items.


PANEL FACT. IN1-30602-RGB-JWM7
AREA 1 SHUT DOWN
MAIN SUB 0001248H 23M
1 TMP-NG TEMP1 0001248H 21M
2 SQ-IC SQNO/L 0001158H 05M
3 MD-IIC EEPROM 0001078H 53M
4 SQ-IC VER-LR 0000098H 47M
5 MD-IIC BACKUP 0000518H 30M
6 SQ-IC SEP-IC 0000128H 07M
7 H M
8 H M

■ Key operation

<DOWN> : Shifting to PANEL-1 ADJ (+)
<UP> : Shifting to POWER DOWN
<L/R> : Updating displayed information

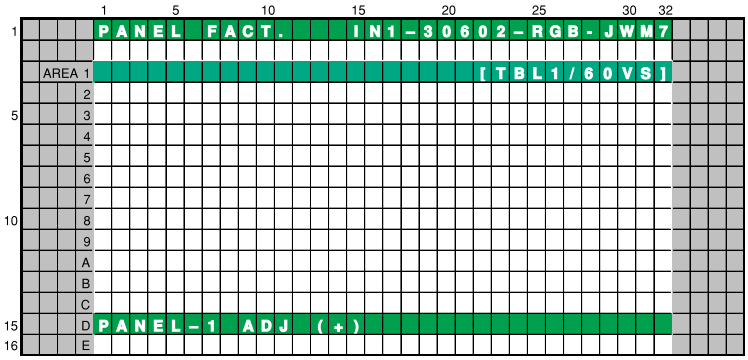
* When there is detail information when shutdown occurred, the possible defective part is displayed as Sub information.

<Causes of shut-down and corresponding OSD indications>

Cause of shut-down (MAIN)		Subcategory of Cause of shut-down (SUB)	
Item	**OSD Indication**	**Item**	**OSD Indication**
Drive Sequence Processing IC	SQ-IC	Communication Error	RTRY
		Drive Sequence Stop	SQNO
		Communication Busy	BUSY
		Version Mismatching	VER-HS
MDU-IIC	MD-IIC	MAIN EEPROM Communication Error	EEPROM
		BACKUP EEPROM Communication Error	BACKUP
		DAC Communication Error	DAC
High temperature of the panel	TMP-NG	Temperature NG	TEMP

8.2.2.5 PANEL-1 ADJ (+)

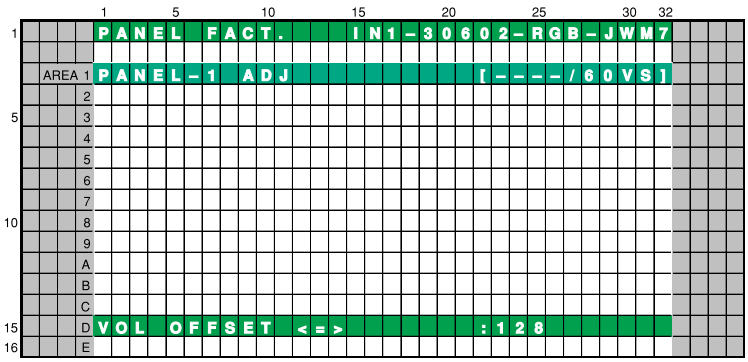
- Timing and voltage for the driving pulse are set. At third line of the screen, the WB (White Balance) table and frequency table indicating operation status are displayed, and at fifteenth line of the screen, the item for the upper nested layer (PANEL-1 ADJ [+]) is displayed. Pressing the SET key shifts the screen to the next nested layer below for item selection.



■ Key operation

<DOWN> : Shifting to PANEL-2 ADJ (+)
<UP> : Shifting to SHUT DOWN
<SET> : Shifting to the next nested layer

- When the screen is shifted to the next nested layer below, the item of the layer above is indicated at third line of the screen, and the item of the layer below is indicated at fifteenth line.
- The configuration of the menu screen is the same for any adjustment item that has lower layers.

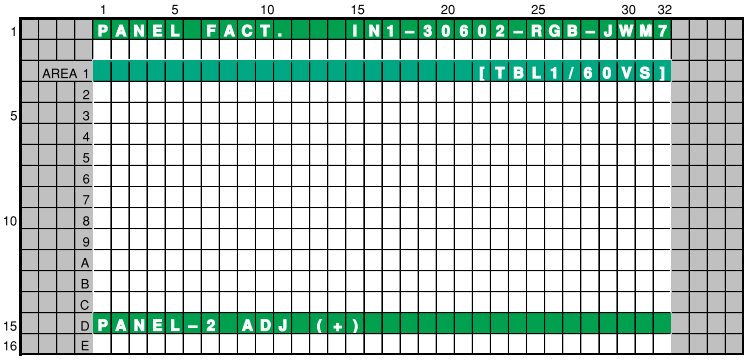


■ Key operation

<DOWN> : Shifting to the next item
<UP> : Shifting to the previous item
<RIGHT> : Adding by one to the adjustment/ setting value
<LEFT> : Subtracting by one from the adjustment/setting value
<VOL+> : Adding by 10 to the adjustment/ setting value
<VOL-> : Subtracting by 10 from the adjustment/setting value
<SET> : Determining the adjustment/setting value and shifting to the upper layer

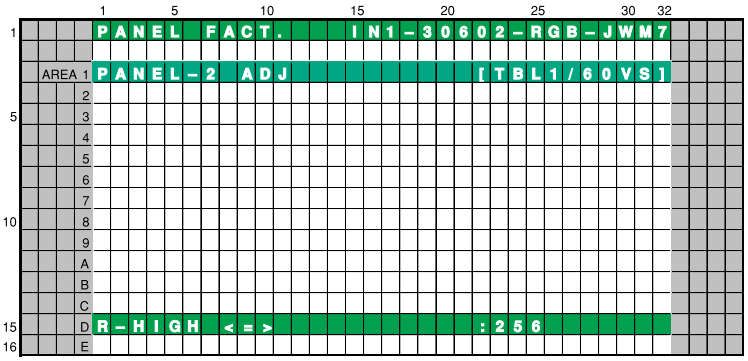
8.2.2.6 PANEL-2 ADJ (+)

- White balance can be adjusted by adjusting R, G, and B gain. Pressing the SET key shifts the screen to the next nested layer below for item selection.



■ Key operation

<DOWN> : Shifting to PANEL REVISE (+)
<UP> : Shifting to PANEL-1 ADJ (+)
<SET> : Shifting to the next nested layer

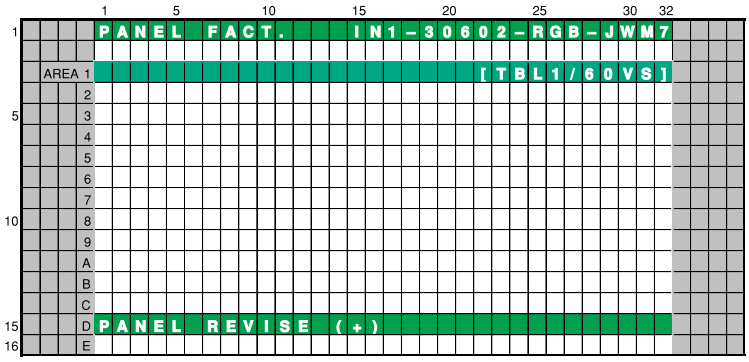


■ Key operation

<DOWN> : Shifting to the next item
<UP> : Shifting to the previous item
<RIGHT> : Adding by one to the adjustment/setting value
<LEFT> : Subtracting by one from the adjustment/setting value
<VOL+> : Adding by 10 to the adjustment/setting value
<VOL-> : Subtracting by 10 from the adjustment/setting value
<SET> : Determining the adjustment/setting value and shifting to the upper layer

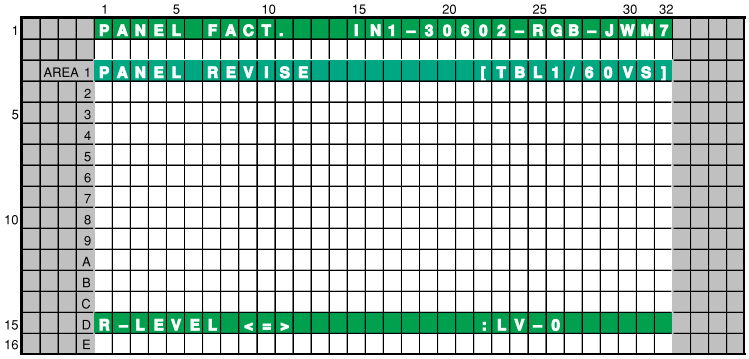
8.2.2.7 PANEL REVISE (+)

- A setting for panel degradation correction can be made. Pressing the SET key shifts the screen to the next nested layer below for item selection.



■ Key operation

<DOWN> : Shifting to ETC.(+)
<UP> : Shifting to PANEL-2 ADJ (+)
<SET> : Shifting to the next nested layer

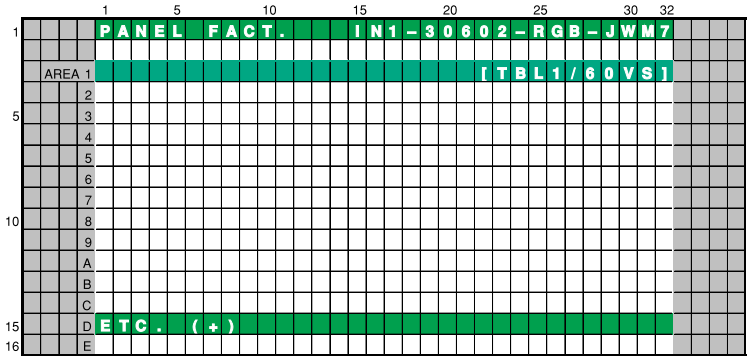


■ Key operation

<DOWN> : Shifting to the next item
<UP> : Shifting to the previous item
<RIGHT> : Adding by one to the adjustment/ setting value
<LEFT> : Subtracting by one from the adjustment/setting value
<SET> : Determining the adjustment/setting value and shifting to the upper layer

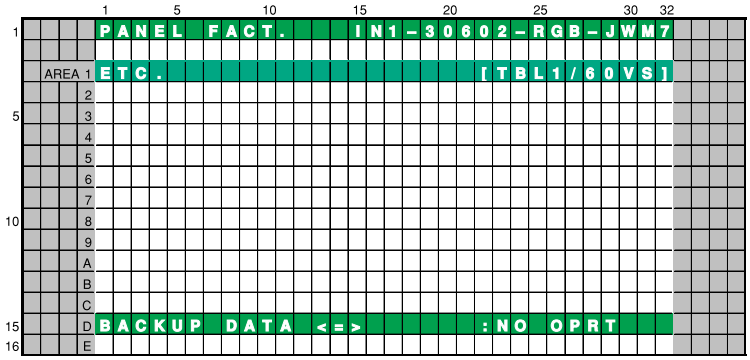
8.2.2.8 ETC. (+)

- The setting about the backup of panel adjusting value and various data on panel operational information can be cleared. Pressing the SET key shifts the screen to the next nested layer below for item selection.



■ **Key operation**

<DOWN> : Shifting to RASTER MASK SETUP (+)
<UP> : Shifting to PANEL REVISE (+)
<SET> : Shifting to the next nested layer

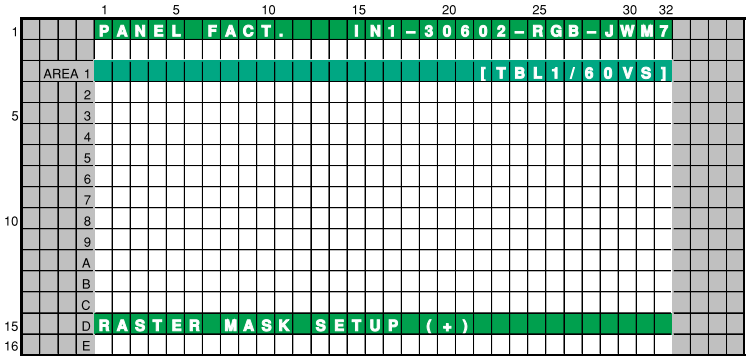


■ **Key operation**

<DOWN> : Shifting to the next item
<UP> : Shifting to the previous item
<RIGHT> : Adding by one to the adjustment/setting value
<LEFT> : Subtracting by one from the adjustment/setting value
<SET> : Determining the adjustment/setting value and shifting to the upper layer

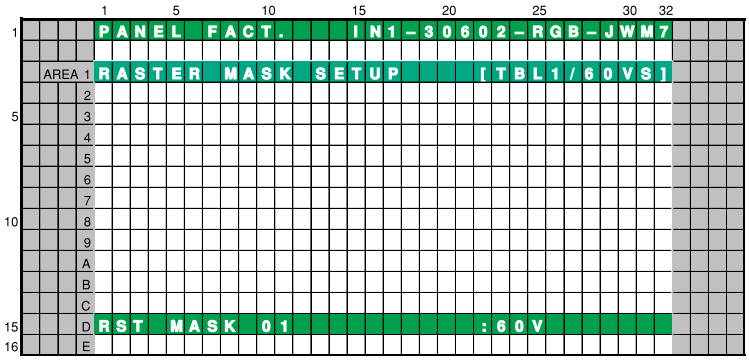
8.2.2.9 RASTER MASK SETUP (+)

- This menu set the RASTER MASK and the drive sequence at RASTER MASK state. Pressing the SET key shifts the screen to the next nested layer below for item selection.



■ Key operation

<DOWN> : Shifting to PATTEN MASK SETUP (+)
<UP> : Shifting to ETC. (+)
<SET> : Shifting to the next nested layer



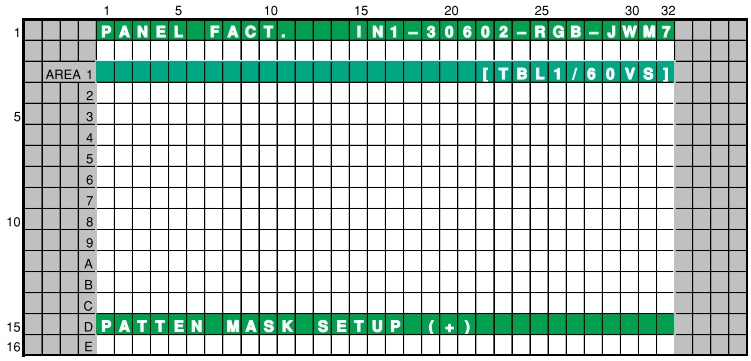
■ Key operation

<DOWN> : Shifting to the next MASK
<UP> : Shifting to the previous MASK
<RIGHT> : Changing MASK sequence (+)
<LEFT> : Changing MASK sequence (-)
<SET> : Determining the adjustment/setting value and shifting to the upper layer

- The MASK indication sequence can be changed among 48V, 50V, 60V, 72V, 75V, 60P, and 70P, using the Right or Left key. The selected sequence and the ABL/WB table are retained until the mask is turned off.
- 48 V and 60 P are deleted from the sequence, and represented by 50 V and 60 V, respectively. The ABL/WB table is changed to the PC table.

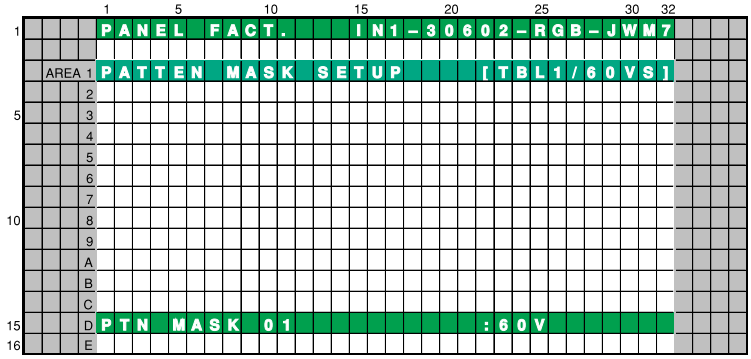
8.2.2.10 PATTEN MASK SETUP (+)

• This menu set the PATTEN MASK and the drive sequence at PATTEN MASK state.



■ Key operation

<DOWN> : Shifting to COMBI MASK SETUP (+)
<UP> : Shifting to RASTER MASK SETUP (+)
<SET> : Shifting to the next nested layer



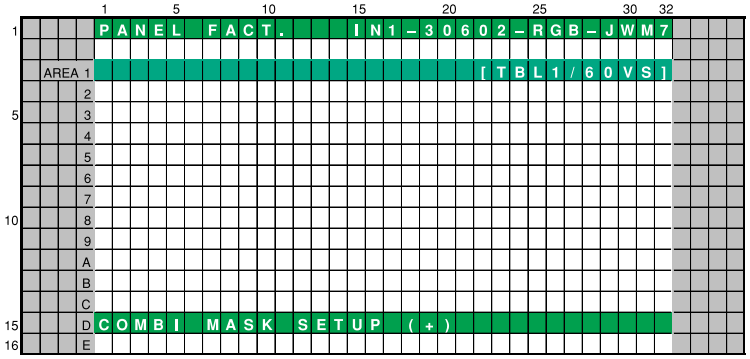
■ Key operation

<DOWN> : Shifting to the next MASK
<UP> : Shifting to the previous MASK
<RIGHT> : Changing MASK sequence (+)
<LEFT> : Changing MASK sequence (-)
<SET> : Determining the adjustment/setting value and shifting to the upper layer

• The MASK indication sequence can be changed among 48V, 50V, 60V, 72V, 75V, 60P, and 70P, using the Right or Left key. The selected sequence and the ABL/WB table are retained until the mask is turned off.
• 48 V and 60 P are deleted from the sequence, and represented by 50 V and 60 V, respectively. The ABL/WB table is changed to the PC table.

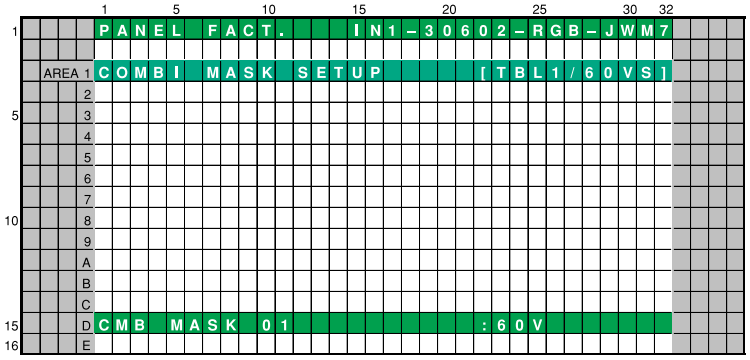
8.2.2.11 COMBI MASK SETUP (+)

• This menu set the COMBI MASK and the drive sequence at COMBI MASK state.



■ Key operation

<DOWN> : Shifting to PANEL INFORMATION
<UP> : Shifting to PATTEN MASK SETUP (+)
<SET> : Shifting to the next nested layer



■ Key operation

<DOWN> : Shifting to the next MASK
<UP> : Shifting to the previous MASK
<RIGHT> : Changing MASK sequence (+)
<LEFT> : Changing MASK sequence (-)
<SET> : Determining the adjustment/setting value and shifting to the upper layer

• The MASK indication sequence can be changed among 48V, 50V, 60V, 72V, 75V, 60P, and 70P, using the Right or Left key. The selected sequence and the ABL/WB table are retained until the mask is turned off.
• 48 V and 60 P are deleted from the sequence, and represented by 50 V and 60 V, respectively. The ABL/WB table is changed to the PC table.

8.2.3 OPTION

Operation item

No.	Function	Content	RS-232C
1	EDID WRITE MODE ⇔	DISABLE ⇔ ENABLE	——
2	CH PRESET ⇔	USER ⇔ FACTORY	——

8.2.3.1 EDID WRITE MODE

Exclusively used for production line.

8.2.3.2 CH PRESET

Exclusively used for production line.

8.2.4 INITIALIZE

Operation item

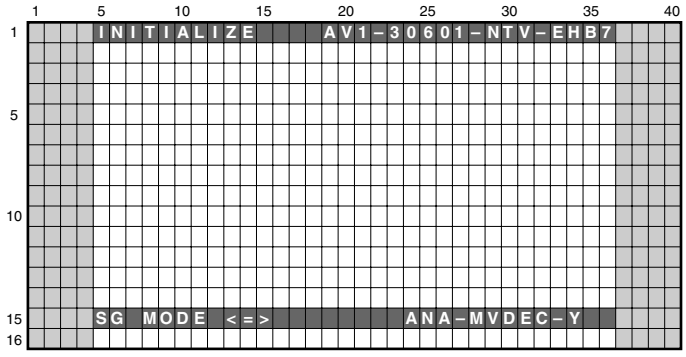
No.	Function	Content	RS-232C
1	SYNC DET (+)	Exclusively used for technical analsyis.	——
2	SG MODE ⇔	Paired SG_MODE with SG_PATTERN. Select SG Route.	——
3	SG PATTERN ⇔	Paired SG_MODE with SG_PATTERN. Select SG Pattern.	——
4	SIDE MASK LEVEL (+)	Configure the color of the side mask.	BSL, GSL, RSL
5	FINAL SETUP (+)	Initialize flash memorys on virgin product status	FST
6	CVT AUTO ⇔	Exclusively used for technical analsyis.	——
7	HDMI INTR POSITION (+)	Exclusively used for technical analsyis.	——

8.2.4.1 SYNC DET (+)

Exclusively used for technical analsyis (details omitted).

8.2.4.2 SG MODE

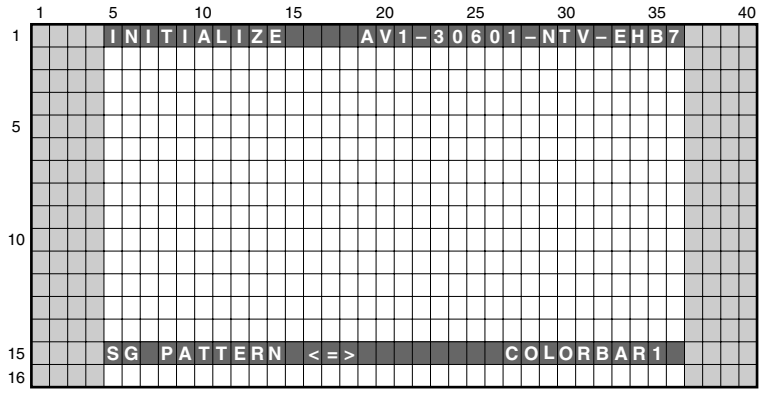
SG MODE (SG's route selection) / SG PATTERN (signal pattern selection) are used as pair.
In SG MODE, select the SG route and then select the SG pattern to be sent by the selected route.
In SG MODE, make sure to select the route first.



Operation item

No.	Display	Content
1	SG OFF	SG Mode is OFF.
2	DIG MVDEC YCBCR	MAIN VDEC: YCbCr (Digital output mode)
3	ANA MVDEC Y	MAIN VDEC: Y (Analog output mode: SG VDEC return setting)
4	ANA MVDEC RGB	MAIN VDEC:RGB
5	ANA SVDEC Y	SUB VDEC:Y
6	ANA AD YCBCR	AD: YcbCr (Analog output to the RGB SW)
7	ANA AD RGB	AD: RGB (Analog output to the RGB SW)

8.2.4.3 SG PATTERN



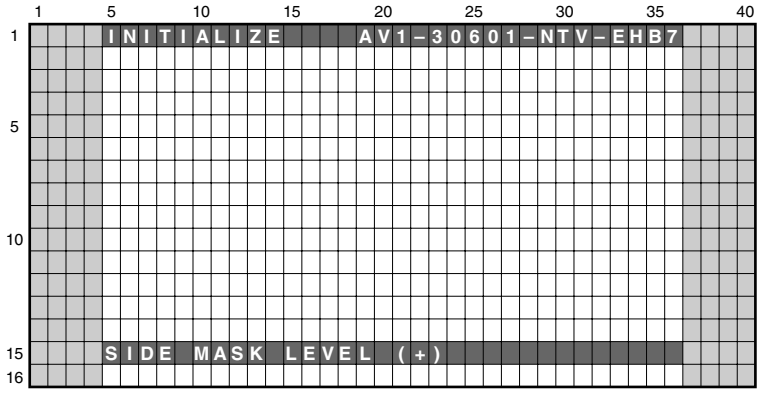
Operation item

No.	Display	SG Pattern (Brightness IRE Level/Color)	No.	Display	SG Pattern (Brightness IRE Level/Color)
1	COLOR BAR1	Colorbar (75%)	11	RASTER4	Raster (75% Green)
2	COLOR BAR2	Colorbar (100%)	12	RASTER5	Raster (75% Magenta)
3	RAMP1	Ramp (100% white)	13	RASTER6	Raster (75% Red)
4	RAMP2	Ramp (100% Yellow)	14	RASTER7	Raster (75% Blue)
5	RAMP3	Ramp (75% Green)	15	RASTER8	Raster (– % Black)
6	RAMP4	Ramp (75% Red)	16	10STEP1	10STEP (100% white)
7	RAMP5	Ramp (75% Blue)	17	10STEP2	10STEP (100% Yellow)
8	RASTER1	Raster (100% White)	18	10STEP3	10STEP (75% Green)
9	RASTER2	Raster (75% Yellow)	19	10STEP4	10STEP (75% Red)
10	RASTER3	Raster (75% Cyanide)	20	10STEP5	10STEP (75% Blue)

■ Notes when using SG MODE/SG PATTERN

- During factory mode, choose the correct route when changing.
- Basically, during VDEC SG output, make sure to connect SG output's Y or G to the AVI input terminal of VDEC.
- During SG MODE, turn off the blanking 50IRE setup function.
- During VDEC SG output, set the YC seperation setting to NTSC.
- It is possible to use ANALOG OUT MODE together during DIGITAL OUT MODE.
  The Main VDEC can output digital color difference, in which colors will appear.
  But the route to VDEC input cannot be analysed therefore care should be taken when using.
  Depending on the situation, please use the proper analog/digital output.
- The SG MODE outputs color difference and RGB only. Therefore, in the case of CVBS, only the Y input is used resulting in no color.
  This is not a damage result nor error.
- The SG MODE's ANA AD RGB (route to input 525i to AD by RGB) as a set's route, the setting does not exist. For this account the latter part from MVDEC does not have set values, resulting in having funny colors in colorbar, the brightness changes after switching, etc.
  This is not a damage result nor error.
- Depending on MVDEC's part version, ANA_MVDEC_YCBCR may not display colors.

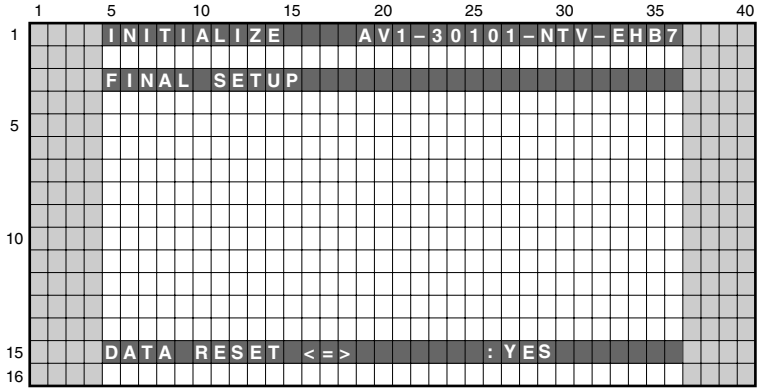
8.2.4.4 SIDE MASK LEVEL



To configure sidemask's R, G, B level (To adjust the values, input signal is required).

No.	Display	Content	RS-232C
1	R MASK LEVEL ⇔	Adjust Side Mask R (Adjustable range: 000 to 255)	RSL
2	G MASK LEVEL ⇔	Adjust Side Mask G (Adjustable range: 000 to 255)	GSL
3	B MASK LEVEL ⇔	Adjust Side Mask B (Adjustable range: 000 to 255)	BSL

8.2.4.5 FINAL SETUP



- To reset each memory value sto factory default values. Factory command is "FST".
- When the configuration is set to <NO> and the [SET] key is pressed, no action is taken and the menu returns to previous screen.
- When the configuration is set to <YES> and the [SET] key is pressed for 5 seconds, the reset action executes.

8.2.4.6 CVT AUTO

Exclusively used for technical analsyis (details omitted).

8.2.4.7 HDMI INTR POSITION (+)

Exclusively used for technical analsyis (details omitted).

9. LIST OF RS-232C COMMANDS

9.1 OUTLINE OF RS-232C COMMANDS

9.1.1 PREPARED TOOLS

It is necessary to prepare the following one to use 232C command.

- PC
- Application for control
- 232C cable (straight)

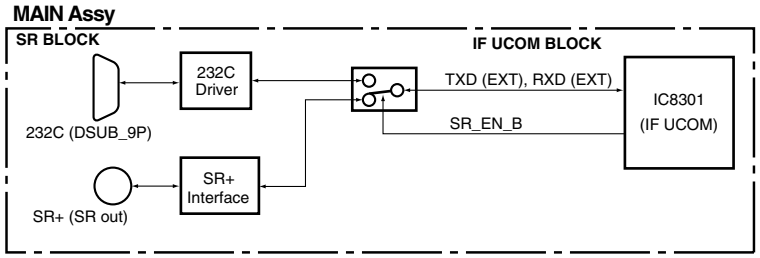
∗ It is likely not to move correctly in Win 98 faction/Me and Win for foreign countries.

∗ The setting of the Com port cannot be communicated if it doesn't do correctly.
(Please follow a set explanation of PC in the Com port)

9.1.2 USING RS-232C COMMANDS

For the PDP-507XD and PDP-507XA series Plasma Displays, the circuitry is structured as shown in the diagram below to support the SR+ system. Controlling with either the SR+ system or RS-232C commands can be selected.
As the SR+ system is selected at shipment, to control with RS-232C commands in servicing it is necessary to switch the paths. After servicing, be sure to return the setting to the SR+ system.

■ Rough diagram of switching between SR+ and RS-232C



■ How to switch SR+/RS-232C ?

There are "How to switch SR+/RS-232C by remote control in the Standby Mode" and "How to switch SR+/RS-232C by remote control in the INTEGRATOR MENU" as a Method

① To select SR+/RS-232C by remote control in Standby Mode.

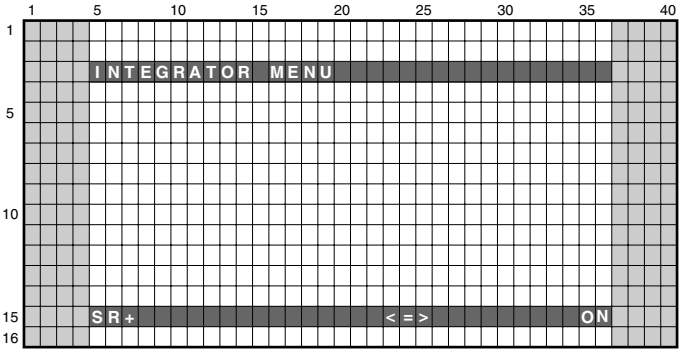
- During Standby mode, hold the keys other than the [POWER] key on the remote control, the following operation is done within 10 seconds.

To select from SR+ to RS-232C/To select from RS-232C to SR+.

- During standby mode, hold the [VOLUME+ (or -)] key on the remote control unit pressed for 3 to 10 seconds.
→Then within 3 seconds after the key is released, hold the [2-screen] key released, use the [SET (ENTER)] key on the remote control unit to set to RS-232C (the baud rate last selected is chosen) or the [HOME MENU] key to set to SR+.
- During IF Standby mode (once 10 seconds or more has passed after the LED goes dark during communication), the first keypress may not be accepted. In such a case, for a key operation, first press any key other than the [POWER] key and [CH] keys, then the desired key.
- At the switch SR+/RS-232C, the LED will be blinked on the fixed time.

② To select SR+/RS-232C in the INTEGRATOR MENU.

- How to enter INTEGRATOR MENU.
During standby mode, press the [Home Menu] key, and then press the [POWER] key within 3 seconds. During factory mode, hold the [INTEGRATOR] key.
- In INTEGRATOR MENU, there is a OSD where SR+ (or RS-232C) is turned on/off, and it switches on the screen.



9.1.3 COMMAND PROTOCOL

■ **Communication protocol : Asynchronous serial communication by RS-232C**

Start bit length : 1 bit
Data width : 8 bit (ASCII codes/There is no distinction between the capital letter and the small letter)
Parity : None
Stop bit length : 1 bit
Baud rate : 9600 bps (Fixed)

■ **Regulating function**

Direct numerical value effective: The adjustment value can be set directly by transmitting the figure to the mark of the command.

■ **Data format**

The control signal format sent from the user side controller is as follows. When the transmission data is completed STX (02 (Hex)), the command of ETX (03 (Hex)) is arranged when beginning to communicate. And, ID, the command, and the parameter are arranged between those. Data is assumed to be ASCII form alphanumeric character. Neither the capital letter nor the small letter are distinguished.

• Only for the command

STX	ID	Command	ETX
0x02	**	□□□	0x03

• When you accompany setting/adjustment data

STX	ID	Command	Parameter	ETX
0x02	**	□□□	△△△	0x03

■ **Command processing**

When the command is input, the command processing begins processing.
ID is assumed to be 2 asterisk "**".

■ **Reception confirmation**

The module microcomputer judges right or wrong for the command received from the main side.
If it is an effective command, processing is executed. And, the reply of the received command is done when entering the following state of the command standby after processing is completed.
The replying data replies data that deletes the ID code from the reception command by the capital letter.

• When you accompany setting/adjustment data

Send data to PC

STX	ID	Command	Parameter	ETX
0x02	**	□□□	△△△	0x03

→ Receive data

STX	Command	Parameter	ETX
0x02	□□□	△△△	0x03

• Only for the command

Send data to PC

STX	ID	Command	ETX
0x02	**	□□□	0x03

→ Receive data

STX	Command	ETX
0x02	□□□	0x03

In this case, "ERR" replies if it is a command of the uncorrespondence.
The command replies "XXX" when processing on status cannot be executed even if it is effective.

• For an Invalid command

Send data to PDP system

STX	ID	Command	ETX
0x02	**	□□□	0x03

→ Receive data

STX	Command	ETX
0x02	ERR	0x03

• For the command that cannot be executed on status

Send data to PDP system

STX	ID	Command	ETX
0x02	**	□□□	0x03

→ Receive data

STX	Command	ETX
0x02	XXX	0x03

■ **Processing in the case of an error**

When the communication error occurs from STX between ETX, the processing of a pertinent command is discontinued, and the reception buffer is cleared. When STX is received, the command reception processing keeps storing the transmitted character string in the register.
And, the character string placed by the ETX reception between STX-ETX is interpreted as a command.

9.1.4 DEFINITION OF COMMAND

■ Single functional command

The command to which operation is concluded only by command. The command parts are 3 characters.

Send data to PC

STX	ID	Command	ETX
0x02	**	PON	0x03

→

Receive data

STX	Command	ETX
0x02	PON	0x03

■ Adjustment command and adjustment value

- The command to which value of parameter is changed attended with adjustment value. The command parts are 3 characters.
- The adjustment value is the numeric character data of the decimal number 3 characters. It is made the range of 000-999. The range that can be adjusted is different according to the function to adjust (It is noted that then, it is not uniformly to 999).

Send data to PC

STX	ID	Command	Parameter	ETX
0x02	**	CNT	128	0x03

→

Receive data

STX	Command	Parameter	ETX
0x02	CNT	128	0x03

* When the received command exceeds the range where the adjustment value can be adjusted, "XXX" is transmitted.
* When the same adjustment value is continuously transmitted two times or more, "XXX" doesn't reply, though it is an invalid command. It's overwrited, and ACK that deletes ID replies.

■ Set command and Set value

- The command to which set value of parameter is changed attended with set value. The command parts are 3 characters.
- Set values are three characters. The first character is fixed to "S". 2 remainder characters are assumed to be assumption S00-S99 as the decimal number.

Send data to PDP system

STX	ID	Command	Parameter	ETX
0x02	**	MKS	S02	0x03

→

Receive data

STX	Command	Parameter	ETX
0x02	MKS	S02	0x03

* When the received command doesn't exist as a set value, "XXX" is transmitted.
* When the same set value is continuously transmitted two times or more, "XXX" doesn't reply, though it is an invalid command. It's overwrited, and ACK that deletes ID replies.

■ State acquisition command

- The command that reports on state of operation and set value, etc. to system side.
- The content that corresponds by the kind of the command is read from the memory, when the command is received from the system side and it replies.
- The command parts are three characters. The first character is fixed to "Q". It sets since the second character according to the content of information.
- The reply data is transmitted adding various data that converts the received command and ASCII code and the checksum of the data. Because the content of the reply changes according to the kind of the "QUEST command", the data length follows an individual, individual specification.

Send data to PDP system

STX	ID	Command	ETX
0x02	**	QS1	0x03

→

Receive data

STX	Command	Parameter	ETX
0x02	QS1	•••••••••	0x03

Adjustment assistance command

The Adjustment Assistance Command is combined and used with the Adjustment Command.

- The Adjustment Command + Adjustment Assistance Command ⇒ It addition/subtracts it from a present adjustment value.
  Note: When the received command exceeds the range of the adjustment value, it changes to MAX/MIN.

- The adjustment command immediately before is made efficacy when only the adjustment command (addition/subtraction command) is received alone after the adjustment command receptions completed, and it makes it to the value addition/subtracted from a present adjustment value. However, it applies to the command when other commands are received.

- Kind of Adjustment Assistance Command (addition/subtraction command)
  UP1 to UP9, UP0, UPF: 1 to 10 is added to a setting value.
  UPF: It makes it to the maximum value ("VOL" command).
  DW1 to DW9, DW0, DWF: 1 to 10 is subtracted a setting value.
  DWF: It makes it to the minimum value ("VOL" command).
  FWD: One Priset CH is previously advanced ("CHN" command).
  REV: One Priset CH is returned in the front ("CHN" Command).

Send data to PDP system

STX	ID	Command	Subcommand	ETX
0x02	**	VOL	UP1	0x03

→

Receive data

STX	Command	Subcommand	ETX
0x02	VOL	UP1	0x03

9.2 LIST OF RS-232C COMMANDS

RS-232C commands can be used in Service Factory mode. Before using RS-232C commands, it is necessary to change the factory presetting. See "9.1 OUTLINE OF RS-232C COMMANDS".

[Note ; If you want to see version infomation (ex. QS1, QS6, Factory, Menu), Please see 10 seconds after starting.]

■ RS-232C command list

Command Name		Function	Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
A							
ABL	***	Adjusting the upper limit of the power	●		Mod	●	
AMT	S00	Audio mute : OFF		●			
	S01	Audio mute : ON		●			
APW	S00	WB correction interlocked with APL: OFF	●			●	
	S01	WB correction interlocked with APL: ON	●			●	
B			**MDU**	**MTB**			
BCP		Copying the backup data in the EEPROM	●			●	
BHI	***	User white balance : BLUE highlight	●				
BLW	***	User white balance : BLUE lowlight	●				
BRT	***	User brightness	●				
BSM	S00	After image/Burning safe mode: OFF	●				
	S01	After image/Burning safe mode: ON	●				
BSL		Adjusting Side Mask Level BLUE		●			
C			**MDU**	**MTB**			
CBU		Clearing backup data of EEPROM	●			●	
CHM		Clearing data of the hour meter	●			●	
CHN	FWD	Changing tuner preset channel (1 step forward)		●			
	REV	Changing tuner preset channel (1 step reverse)		●			
CNT	***	User contrast	●				
CMT		Clearing data of the maximum temperature	●			●	
CPC		Clearing power-on count data	●			●	
CPD		Clearing power-down histrory	●			●	
CPM		Clearing data of the pulse meter	●			●	
CSD		Clearing shutdown history	●			●	
D			**MDU**	**MTB**			
DRV	S00	Main power off	●				
	S01	Main power on	●				
DW*		To subtract *** to the adjustment value (*** = 000 to 999, designated by a function command)		●			
E			**MDU**	**MTB**			
ESV	S00	Setting Power Consumption mode to normal sequence & normal curve	●				
	S01	Setting Power Consumption mode to silent sequence & normal curve	●				
	S02	Setting Power Consumption mode to silent sequence & power-saving curve	●				
F			**MDU**	**MTB**			
FAJ		Determining the flag of the DIGITAL Assy adjustment in "adjustment is completed"	●			●	
FAN		Factory mode off	●	●		●	
FAY		Factory mode on	●	●			
FST		Set each memory setting of MTB side to the shipment state.		●			
G			**MDU**	**MTB**			
GHI	***	User white balance : GREEN highlight	●				
GLW	***	User white balance : GREEN lowlight	●				
GSL		Green side mask level adjustment		●		●	

Command Name		Function	Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
I							
INA	***	Switching the terrestrial analog signal		●			
INC	***	Switching the terrestrial digital signal (EUC is Step-upD only)		●			
INP	S01	Input switch: INPUT 1		●			
	S02	Input switch: INPUT 2		●			
	S03	Input switch: INPUT 3		●			
	S04	Input switch: INPUT 4		●			
	S05	Input switch: INPUT 5		●			
	S06	Input switch: INPUT 6		●			
M			**MDU**	**MTB**			
MKC	S00	MASK off	●		Mod	●	
	S01	H ramp (slant 1) M	●		Mod	●	
	S02	H ramp (slant 4) M	●		Mod	●	
	S03	Slanting ramp M	●		Mod	●	
	S04	30 for aging	●		Mod	●	
	S05	05 for aging	●		Mod	●	
	S06	Erasing afterimage 1	●		Mod	●	
	S07	Erasing afterimage 2 (RGB: zigzag, V: reverse)	●		Mod	●	
	S08	White (change in luminance level)	●		Mod	●	
	S09	PEAK SEEK RASTER	●		Mod	●	
	S10	For engineering use	●		Mod	●	
MKS	S00	MASK off	●		Mod		
	S01	H ramp (slant 1)	●		Mod	●	
	S02	H ramp (slant 4)	●		Mod	●	
	S03	V ramp (slant 1)	●		Mod	●	
	S04	Slanting ramp	●		Mod	●	
	S05	Window (Hi= 870, Lo= 102)	●		Mod	●	
	S06	Window (Hi= 1023, Lo= 102)	●		Mod	●	
	S07	Window (Hi= 1023)	●		Mod	●	
	S08	Window (Hi= 1023) 4 %	●		Mod	●	
	S09	Window (Hi= 1023) 1.25 %	●		Mod	●	
	S10	Window (1/7 LINE)	●		Mod	●	
	S11	STRIPE (MGT/GRN)	●		Mod	●	
	S12	STRIPE (GRN/MGT)	●		Mod	●	
	S13	B & W, checker (1 line)	●		Mod	●	
	S14	B & W, checker (2 lines)	●		Mod	●	

Command Name		Function	Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
M							
MKS	S15	B & W, checker (4 lines)	●		Mod	●	
	S16	B & W, checker (8 lines)	●		Mod	●	
	S17	COLOR BAR	●		Mod	●	
	S18	Slanting lines	●		Mod	●	
	S19	Red & black, checker (1 line)	●		Mod	●	
	S20	Red & black, checker (2 lines)	●		Mod	●	
	S21	Red & black, checker (4 ines)	●		Mod	●	
	S22	Red & black, checker (8 lines)	●		Mod	●	
	S23	RGB zigzag, V reverse	●		Mod	●	
	S24	SUS 2000 pulses (black raster)	●		Mod	●	
	S25	Window (Hi= 870, Lo= 102) Pattern 3	●		Mod	●	
	S26	Window (Hi= 1023, Lo= 102) Pattern 3	●		Mod	●	
	S27	Window (Hi= 1023) Pattern 3	●		Mod	●	
	S28	Window (Hi= 1023) 4 % Pattern 3	●		Mod	●	
	S29	Window (Hi= 1023) 1.25 % Pattern 3	●		Mod	●	
	S30	Window (1/7 LINE) Pattern 3	●		Mod	●	
	S31	Noise ON - White	●		Mod	●	
	S32	Noise ON - Red	●		Mod	●	
	S33	Noise ON - Green	●		Mod	●	
	S34	Noise ON - Blue	●		Mod	●	
	S35	Noise ON - Black	●		Mod	●	
	S36	For engineering use	●		Mod	●	
	S37	For engineering use	●		Mod	●	
	S38	For engineering use	●		Mod	●	
	S39	For engineering use	●		Mod	●	
	S51	Raster - White	●		Mod	●	
	S52	Raster - Red	●		Mod	●	
	S53	Raster - Green	●		Mod	●	
	S54	Raster - Blue	●		Mod	●	
	S55	Raster - Black	●		Mod	●	
	S56	Raster - Cyan	●		Mod	●	
	S57	Raster - Magenta	●		Mod	●	
	S58	Raster - Yellow	●		Mod	●	
	S59	RASTER09: Red 760	●		Mod	●	
	S60	RASTER10: Cyan 419	●		Mod	●	
	S61	RASTER11: Green 856	●		Mod	●	
	S62	RASTER12: Gray 313	●		Mod	●	
	S63	RASTER13: Gray 908	●		Mod	●	
	S64	RASTER14: Yellow egg color	●		Mod	●	
	S65	RASTER15: Beige	●		Mod	●	
	S66	RASTER16: Sky color	●		Mod	●	
	S67	RASTER17: Pale purple	●		Mod	●	
	S68	RASTER18: Magenta 54	●		Mod	●	
	S69	RASTER19: Red 1023+	●		Mod	●	
	S70	RASTER20: Green 1023+	●		Mod	●	
	S71	RASTER21: Blue 1023+	●		Mod	●	
	S72	RASTER22: Red 588+	●		Mod	●	
	S73	RASTER23: Green 588+	●		Mod	●	
	S74	RASTER24: Pale rose	●		Mod	●	

Command Name		Function	Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
M							
MST	S00	Display one screen		●			
	S01	PsideP (Main size : normal)		●			
	S02	PinP (Right_down)		●			
	S03	PinP (Right_up)		●			
	S04	PinP (Left_up)		●			
	S05	PinP (Left_down)		●			
	S06	PsideP (Main size : center)		●			
	S07	PsideP (Main size : large)		●			
	S08	SWAP (Exchanging sub-screen)		●			
O			**MDU**	**MTB**			
OSD	S00	Turning OSD setting to off		●			
	S01	Turning OSD setting to on		●			
P			**MDU**	**MTB**			
PAV	S**	Switching panel functions interlocked with the AV selection	●				
PBH	***	Panel white balance adjustment - Blue highlight	●		Mod	●	
PBL	***	Panel white balance adjustment - Blue low light	●		Mod	●	
PDM	S00	Passing PD signals to the Power SUPPLY Unit => Power-down	●				
	S01	Not passing PD signals to the Power SUPPLY Unit => No power-down	●				
PFN		Factory mode: off	●			●	
PFS		Setup at shipment	●			●	
PFY		Factory mode: on	●			●	
PGH	***	Panel white balance adjustment - Green highlight	●		Mod	●	
PGL	***	Panel white balance adjustment - Green low light	●		Mod	●	
PGM	S**	Setting of the gamma table	●				
PMT	S00	Canceling panel muting	●				
	S01	Panel muting	●				
POF		Power off	●	●	Main		
PON		Power on	●	●	Main		
PPT	S00	Panel protection: off	●			●	
	S01	Panel protection: on	●			●	
PRH	***	Panel white balance adjustment - Red highlight	●		Mod	●	
PRL	***	Panel white balance adjustment - Red low light	●		Mod	●	
PUC	S00	Pure cinema: off	●	●		●	
	S01	Pure cinema: standard	●	●		●	
	S02	Pure cinema: advanced	●	●		●	
Q			**MDU**	**MTB**			
QAJ		Acquiring various adjustment values	●				
QIP		Acquiring various input signal data	●				
QMT		Acquiring temperature of MTB side and Fan speed		●			
QNG		Acquiring shut-down information of MTB side		●			
QPD		Acquiring logs of power-down points	●				
QPM		Acquiring data of the pulse meter	●				
QPW		Acquiring panel white balance adjustment values	●				
QS1		Acquiring unit data, such as the software version common to all models, regardless of destination	●	●			
QS2		Acquiring data on the status of the unit, such as temperature	●				
QS6		Acquiring unit data, such as the software version common to all models, regardless of destination		●			
QSD		Acquiring data on shutdown	●				

Command Name		Function	Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
Q							
QSI		Acquiring data related with signals	●				
R			**MDU**	**MTB**			
RBL	S**	Setting of blue level for panel degradation correction	●		Mod	●	
RGL	S**	Setting of green level for panel degradation correction	●		Mod	●	
RHI	***	User white balance - Red highlight	●				
RLW	***	User white balance - Red low light	●				
RRL	S**	Setting of red level for panel degradation correction	●		Mod	●	
RSL	***	Adjustment of the Red side mask level		●		●	
RSW	***	Adjustment of the width of XY reset pulse 1	●		Mod	●	
RYW	***	Adjustment of the width of XY reset pulse 2	●		Mod	●	
S			**MDU**	**MTB**			
SDM	S00	Shutdown enabled	●				
	S01	Shutdown prohibited	●				
SFR	S01	Measures against AM radio noise - Pattern 1	●		Mod	●	
	S02	Measures against AM radio noise - Pattern 2	●		Mod	●	
	S03	Measures against AM radio noise - Pattern 3	●		Mod	●	
	S04	Measures against AM radio noise - Pattern 4	●		Mod	●	
	S05	Measures against AM radio noise - Pattern 5	●		Mod	●	
	S06	Measures against AM radio noise - Pattern 6	●		Mod	●	
	S07	Measures against AM radio noise - Pattern 7	●		Mod	●	
	S08	Measures against AM radio noise - Pattern 8	●		Mod	●	
SMM	S**	Setting of the effective area during streaking correction	●			●	
SN0	***	Setting of the serial No. 0 (panel)	●		Mod	●	
SN1	***	Setting of the serial No. 1 (panel)	●		Mod	●	
SN2	***	Setting of the serial No. 2 (panel)	●		Mod	●	
SN3	***	Setting of the serial No. 3 (panel)	●		Mod	●	
SN4	***	Setting of the serial No. 4 (panel)	●		Mod	●	
SZM	S00	Setting the screen size to Dot by Dot or PARTIAL		●			
	S01	Setting the screen size to 4 :3		●			
	S02	Setting the screen size to FULL or FULL1080i		●			
	S03	Setting the screen size to ZOOM		●			
	S04	Setting the screen size to CINEMA		●			
	S05	Setting the screen size to WIDE		●			
	S06	Setting the screen size to FULL 14 : 9		●			
	S07	Setting the screen size to CINEMA 14 : 9		●			
	S08	Setting the screen size to FULL1035		●			
U			**MDU**	**MTB**			
UAJ		Determining the flag for the DIGITAL Assy adjustment in "not adjusted"	●				
UP*		To add *** to the adjustment value (*** = 000 to 999, designated by a function command)		●			

Command Name		Function	Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
V							
VFQ	S01	Setting the frequency in Mask mode to VD-48 Hz	●		Mod	●	
	S02	Setting the frequency in Mask mode to VD-50 Hz	●		Mod	●	
	S03	Setting the frequency in Mask mode to VD-60 Hz	●		Mod	●	
	S05	Setting the frequency in Mask mode to VD-72 Hz	●		Mod	●	
	S06	Setting the frequency in Mask mode to VD-75 Hz	●		Mod	●	
	S13	Setting the frequency in Mask mode to PC-60 Hz	●		Mod	●	
	S14	Setting the frequency in Mask mode to PC-70 Hz	●		Mod	●	
	S22	Setting the frequency in Mask mode to VD-50 Hz (nonstandard)	●		Mod	●	
	S23	Setting the frequency in Mask mode to VD-60 Hz (nonstandard)	●		Mod	●	
	S25	Setting the frequency in Mask mode to VD-72 Hz (nonstandard)	●		Mod	●	
	S26	Setting the frequency in Mask mode to VD-75 Hz (nonstandard)	●		Mod	●	
VOF	***	Adjustment of the reference value of Vofs voltage	●			●	
VOL	UP*, DW*, ***	To adjust the volume (to be used in combination with UP*/DW*)		●			
VRP	***	Adjustment of the reference value of Vrst-p voltage	●			●	
VSU	***	Adjustment of the reference value of Vsus voltage	●			●	
W							
WBI	S00	Panel WB standard output mode: off	●			●	
WBI	S01	Panel WB standard output mode: on	●			●	
X							
XSB	***		●		Mod	●	
Y							
YSB	***	Y-SUS-B ADJ	●		Mod	●	
YTB	***	Y-SUSTAIL T2 ADJ	●		Mod	●	
YTG	***	Y-SUSTAIL T1 ADJ	●		Mod	●	
YTW	***	Y-SUSTAIL W ADJ	●		Mod	●	
Z							
ZME		Initializing the video EEPROM data		●		●	
ZPR		Initializing the setting data to which no adjustment command is provided	●			●	

9.3 OUTLINE OF COMMANDS

9.3.1 QS1

Model information and version information are returned.

Command Format	Effective Operation Modes	Function	Remarks
[QS1]	Every Time	Output of status	Return data: 105 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QS1 (Fixed)
1	Display information 1 (Resolution/inch size)	1 byte	F
2	Display information 2 (Panel Generation)	1 byte	7: G7
3	Display information 3 (Destination)	1 byte	A: USA
4	Display information 4 (System Type)	1 byte	*
5	Display information 5 (Panel Product Form)	1 byte	B
6	MDUcom-Boot	3 byte	01A
7	MDUcom-Prg	8 byte	
8	Seq Prs-Boot	3 byte	01A
9	Seq Prs-Prg	8 byte	
10	SQ-VIDEO	4 byte	
11	SQ-PC	4 byte	
12	Panel Type	1 byte	P/F
13	Reserved (*)	7 byte	*******
14	, (comma)	1 byte	
15	MTB information 1 (Generation)	1 byte	7: G7
16	MTB information 2 (Regional model)	1 byte	A: USA
17	MTB information 3 (Grade)	1 byte	H: Elite
18	MTB information 4 (System Type)	1 byte	B
19	Common version for IF microcomputer	4 byte	
20	Common version for Main microcomputer	8 byte	
21	Boot version of Main microcomputer	4 byte	
22	Common version for Multi-processor	8 byte	
23	Boot version of Multi-processor	4 byte	
24	Reserved (*)	24 byte	
25	Check Sum	2 byte	FF

1: Resolution/Inch size	
3	1024*768/42
4	1024*768/43
5	1280*768/50
6	1365*768/50
7	1365*768/60
F	1920*1080/50

2: Panel Generation	
6	G6
7	G7
8	G8
9	G9
0	G10

3: Destination	
*	Commonness
A	US (Reserved)
E	EU (Reserved)
J	Japan (Reserved)

4: System Type	
*	Commonness
Z	Evaluation

5: Panel Product Form	
S	System model
B	All-in-one design TV
M	Monitor
D	Standard module
E	Simple module

12: Panel Type	
P	The past
F	High-effiective

15: MTB/MB Generation	
6	G6
7	G7
8	G8
9	G9
0	G10

16: Regional Model	
J	JP
A	US
E	EU
G	GE
C	CH
U	AU

17: MTB/MB Grade	
H	Elite/DXA/Step-upD
T	Step-upA/XG/TXC/Regular (US)
B	Not used (For Future)
S	RegularD
R	RegularA

18: MTB/MB Product Form	
S	System model
B	One body model (SX)
M	Monitor (FHD)

19 to 23: MTB/MB-side's information	
IF uCON	Common version of IF microcomputer
Main uCON	Common version of Main microcomputer
Main uCON-Boot	Boot version of Main microcomputer
Multi-prs	Common version of Multi-processor program
Multi Prs-Boot	Boot version of Multi-processor program

9.3.2 QS2

The command QS2 is for acquiring data on the panel's operational information.

Command Format	Effective Operation Modes	Function	Remarks
[QS2]	All operations	To acquire data on operations of the panel	Return data: 3 (ECO)+23(DATA)+2(CS)= 28 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QS2
1	Notification of mode shifting to STB	1 byte	1
2	Flag for adjustment of the main unit	1 byte	0
3	Flag for adjustment-data backup	1 byte	0
4	"1st PD" data	1 byte	0
5	"2nd PD" data	1 byte	0
6	Still picture detection	1 byte	0
7	Reserved	2 byte	**
8	Temperature data (TEMP 1)	3 byte	128 (*1)
9	SD main data	1 byte	0
10	SD sub data	1 byte	0
11	Operation status induced by SD	1 byte	0
12	Data from the hour meter	8 byte	00000259 (*2)
13	MASK indication	1 byte	0
CS		2 byte	4A

Note : (*1) The unit scale is centigrade. The data is A/D value from the thermal sensor.
(*2) "00000259" of "Data from the hour meter" means 2 hours 59 minuts.

1: Notification of mode shifting to Standby	
0	Entering Standby mode failed
1	Entering Standby mode succeeded

2: Adjustment of the main unit	
0	Adjustment completed
1	Adjustment not completed

3: Adjustment-data backup	
0	With backup data
1	No data (default)

4, 5: PD data	
0	No PD data
1	Not used
2	POWER
3	SCAN
4	SCN-5V
5	Y-DRV
6	Y-DCDC
7	Y-SUS
8	ADRS
9	X-DRV
A	X-DCDC
B	X-SUS
C	Not used
D	Not used
E	Not used
F	UNKNOWN

6: Still picture detection	
0	Normal screen
1	Still picture

9: SD main data	
0	No SD
1	SQ-IC
2	MDU-IIC
3	RST2
4	TEMP

10-1: SD-Sub (SQ-IC)	
0	No SD-Sub data
1	Communication error
2	Drive stop
3	BUSY
6	Version mismatching

10-2: SD-Sub (IIC)	
0	No SD-Sub data
1	EEPROM
2	BACKUP
3	DAC

10-3: SD-Sub (TEMP)	
0	No SD-Sub data
1	TEMP1
2	Reserved

11: Operation status induced by SD	
0	Normal
1	Relay-off completed
2	During warning indication

13: MASK indication	
0	MASK-OFF
1	MASK-ON

9.3.3 QIP

The command QIP is for acquiring data on operational information of the panel.

Command Format	Effective Operation Modes	Function	Remarks
[QIP]	All operations	To acquire data on operations of the panel	Return data: 3 (ECO)+58(DATA)+2(CS)= 63 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QIP
1	SERIAL	15 byte	- - - - - - - - - - - - - - -
2	HOUR METER	8 byte	00000000
3	TOTAL HOUR METER	8 byte	00000000
4	PON COUNTER	8 byte	00000000
5	TEMP1 acquisition (Temperature value)	5 byte	+23.5 (*1)
6	TEMP0 acquisition (Temperature value)	5 byte	+28.7 (*1)
7	MAX-TEMP1 acquisition (Temperature value)	5 byte	+78.3 (*1)
8	Reserved	4 byte	****
CS		2 byte	94

Note
(*1) : Centigrade scale

9.3.4 QAJ

The command QAJ is for acquiring the panel's factory-preset data.

Command Format	Effective Operation Modes	Function	Remarks
[QAJ]	All operations	To acquire data on operations of the panel	Return data: 3 (ECO)+41(DATA)+2(CS)= 46 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QAJ
1	V-SUS adjustment value	3 byte	128
2	V-OFT adjustment value	3 byte	128
3	V-RST-P adjustment value	3 byte	128
4	Reserved	3 byte	***
5	XSB adjustment value	3 byte	128
6	YSB adjustment value	3 byte	128
7	YTG adjustment value	3 byte	128
8	YTW adjustment value	3 byte	128
9	RSW adjustment value	3 byte	128
10	YTB adjustment value	3 byte	128
11	RYW adjustment value	3 byte	128
12	R-REVICE setting value	1 byte	0
13	G-REVICE setting value	1 byte	0
14	B-REVICE setting value	1 byte	0
CS		2 byte	B7

• For each REVISE setting value, the level set for RRL, RGL, or RBL is transmitted as one character.

9.3.5 QPW

The command QPW is for acquiring the factory-preset data about the video of the panel.

Command Format	Effective Operation Modes	Function	Remarks
[QPW]	All operations	To acquire data on operations of the panel	Return data: 3 (ECO)+35(DATA)+2(CS)= 40 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QPW
1	Drive sequence	3 byte	60V
2	Standard/nonstandard	1 byte	S
3	Type of ABL/WB tables	2 byte	T2
4	ABL adjustment value	3 byte	128
5	R-HIGH adjustment value	3 byte	256
6	G-HIGH adjustment value	3 byte	256
7	B-HIGH adjustment value	3 byte	256
8	R-LOW adjustment value	3 byte	512
9	G-LOW adjustment value	3 byte	512
10	B-LOW adjustment value	3 byte	512
11	Gamma setting	1 byte	A
12	Streaking correction	1 byte	1
13	Peripheral luminance correction	1 byte	0
14	Reserved	1 byte	*
15	WB interlocked with APL	1 byte	0
16	Transition of protective operations	1 byte	0
17	Reserved	2 byte	**
CS		2 byte	37

1: Drive sequence	
48V	Video 48 Hz
50V	Video 50 Hz
60V	Video 60 Hz
72V	Video 72 Hz
75V	Video 75 Hz
60P	PC 60 Hz
70P	PC 70 Hz

2: Standard/ nonstandard	
S	Standard
N	Nonstandard

3: Type of ABL/WB tables	
Tn	n: 1 to 4

11: Gamma setting	
n	0 to F

12, 15: Setting for Items 12 and 15	
0	OFF
1	ON

13: Peripheral luminance correction	
0	OFF
2	ON (interlocked with APL)

16: Transition of brightness by protective operations	
0	Upper limit state for brightness
1	Brightness being reduced
2	Lower limit state for brightness
3	Brightness being increased

9.3.6 QPM

The command QPM is for acquiring the accumulated number of pulses of the panel.

Command Format	Effective Operation Modes	Function	Remarks
[QPM]	All operations	To acquire data on operations of the panel	Return data: 3 (ECO)+40(DATA)+2(CS)= 45 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QPM
1	Pulse meter B 1	8 byte	00000000
2	Pulse meter B 2	8 byte	00000000
3	Pulse meter B 3	8 byte	00000000
4	Pulse meter B 4	8 byte	00000000
5	Pulse meter B 5	8 byte	00000000
CS		2 byte	E7

9.3.7 QPD

The command QPD is for acquiring data from the 8 latest power-down (PD) logs.

Command Format	Effective Operation Modes	Function	Remarks
[QPD]	All operations	To acquire data on the power-down logs	Return data: 3 (ECO)+80(DATA)+2(CS)= 85 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QPD
1	Latest "1st PD" data	1 byte	A
2	Latest "2nd PD" data	1 byte	2
3	Data from the hour meter for the latest PD	8 byte	00010020
4	Second latest "1st PD" data	1 byte	E
5	Second latest "2nd PD" data	1 byte	9
6	Data from the hour meter for the second latest PD	8 byte	00008523
7	Third latest "1st PD" data	1 byte	4
8	Third latest "2nd PD" data	1 byte	3
9	Data from the hour meter for the third latest PD	8 byte	00004335
10	Fourth latest "1st PD" data	1 byte	2
11	Fourth latest "2nd PD" data	1 byte	0
12	Data from the hour meter for the fourth latest PD	8 byte	00000945
13	Fifth latest "1st PD" data	1 byte	4
14	Fifth latest "2nd PD" data	1 byte	0
15	Data from the hour meter for the fifth latest PD	8 byte	00000715
16	Sixth latest "1st PD" data	1 byte	A
17	Sixth latest "2nd PD" data	1 byte	2
18	Data from the hour meter for the sixth latest PD	8 byte	00000552
19	Seventh latest "1st PD" data	1 byte	A
20	Seventh latest "2nd PD" data	1 byte	0
21	Data from the hour meter for the seventh latest PD	8 byte	00000213
22	Eighth latest "1st PD" data	1 byte	D
23	Eighth latest "2nd PD" data	1 byte	0
24	Data from the hour meter for the eighth latest PD	8 byte	000001A7
CS		2 byte	27

1, 2, 4, 5: PD data	
0	No PD
1	Not used
2	P-POWER
3	SCAN
4	SCN-5V
5	Y-DRIVE
6	Y-DCDC
7	Y-SUS
8	Address
9	X-DRIVE
A	X-DCDC
B	X-SUS
C	Not used
D	Not used
E	Not used
F	UNKNOWN

9.3.8 QSD

The command QSD is for acquiring the data from the 8 latest shutdown (SD) logs.

Command Format	Effective Operation Modes	Function	Remarks
[QSD]	All operations	To acquire data on the shutdown logs	Return data: 3 (ECO)+80(DATA)+2(CS)= 85 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QSD
1	Latest SD data	1 byte	1
2	Latest SD subcategory data	1 byte	0
3	Data from the hour meter for the latest SD	8 byte	00752013
4	Second latest SD data	1 byte	5
5	Second latest SD subcategory data	1 byte	0
6	Data from the hour meter for the second latest SD	8 byte	00495204
7	Third latest SD data	1 byte	2
8	Third latest SD subcategory data	1 byte	3
9	Data from the hour meter for the third latest SD	8 byte	00100355
10	Fourth latest SD data	1 byte	2
11	Fourth latest SD subcategory data	1 byte	5
12	Data from the hour meter for the fourth latest SD	8 byte	00075620
13	Fifth latest SD data	1 byte	1
14	Fifth latest SD subcategory data	1 byte	0
15	Data from the hour meter for the fifth latest SD	8 byte	00000852
16	Sixth latest SD data	1 byte	2
17	Sixth latest SD subcategory data	1 byte	5
18	Data from the hour meter for the sixth latest SD	8 byte	000000451
19	Seventh latest SD data	1 byte	0
20	Seventh latest SD subcategory data	1 byte	0
21	Data from the hour meter for the seventh latest SD	8 byte	00000000
22	Eighth latest SD data	1 byte	0
23	Eighth latest SD subcategory data	1 byte	0
24	Data from the hour meter for the eighth latest SD	8 byte	00000000
CS		2 Byte	7D

● SD data	
0	No SD
1	SQ-IC
2	MDU-IIC
3	RST2
4	TEMP

● SD subcategory (SQ-IC)	
0	No SD-Sub data
1	Communication error
2	Drive stop
3	BUSY
6	Version mismatching

● SD subcategory (MDU-IIC)	
0	No SD-Sub data
1	EEPROM
2	BACKUP
3	DAC

● SD subcategory (TEMP)	
0	No SD-Sub data
1	TEMP1
2	Reserved

9.3.9 QS6

Induce it peculiar, individual information is acquired.

Command Format	Effective Operation Modes	Function	Remarks
[QS6]	Every time	Output of status	

Order	Part	Data Arrangement	Data Length	Remarks
00	–	Received Command name	3 byte	QS6
01		DTB version	4 byte	
02		Reserved	8 byte	
03		TELE-TEXT version	60 byte	
04		USER PASSWORD	4 byte	
05	–	Check Sum	2 byte	

9.3.10 QMT

Temperature information (TEMP2) / FAN rotation state information on the MTB side is returned.

Command Format	Effective Operation Modes	Function	Remarks
[QMT]	Every time	Output of status	MTB-side's temperature/FAN rotating status

Order	Part	Data Arrangement	Data Length	Remarks
0	–	Received Command name	3 byte	QMT
01	MTB	MTB-side Temperature (TEMP2)	3 byte	
02		MTB-side FAN rotating speed	1 byte	0: STOP 1: LOW, 5: HIGH, 3: MIDDLE (FHD only)

9.3.11 QNG

MTB/MB side's shutdown information is acquired.

Command Format	Effective Operation Modes	Function	Remarks
[QNG]	Every time	Output of status	

Order	Part	Data Arrangement	Data Length	Remarks
00	–	Received Command name	3 byte	QNG
01	MTB	1st latest NG No.	1 byte	
02		Subcategory No. for the 1st latest NG.	1 byte	
03		MTB hour meter for the 1st latest NG.	7 byte	
04		Temperature for the 1st latest NG.	3 byte	
05		2nd latest NG No.	1 byte	
06		Subcategory No. for the 2nd latest NG.	1 byte	
07		MTB hour meter for the 2nd latest NG.	7 byte	
08		Temperature for the 2nd latest NG.	3 byte	
09		3rd latest NG No.	1 byte	
10		Subcategory No. for the 3rd latest NG.	1 byte	
11		MTB hour meter for the 3rd latest NG.	7 byte	
12		Temperature for the 3rd latest NG.	3 byte	
:		:	:	
29		8th latest NG No.	1 byte	
30		Subcategory No. for the 8th latest NG.	1 byte	
31		MTB hour meter for the 8th latest NG.	7 byte	
32		Temperature for the 8th latest NG.	3 byte	
33	–	Check Sum	2 byte	

< SD Information No. >

Value	Shutdown Factor	Remarks (Operation)
0	Normal	
1	Failure of communication to Module microcomputer	MODULE (immediately Shutdown)
2	3-wire serial communication of Main microcomputer	Go to No. 1 Subcategory Information
3	IIC communication failure of Main microcomputer and Unknown error	Go to No. 2 Subcategory Information
4	Communication failure of Main microcomputer	MAIN (immediately Power Supply OFF)
5	FAN stopped	FAN (immediately Power Supply OFF)
6	Abnormally high temperature at MTB	TEMP2 (After 30 seconds warning, turn the power supply off)
7	Failure of Digital Tuner	Go to No. 3 Subcategory Information
8	Failure of Power Supply	Go to No. 4 Subcategory Information
B	Speaker short-circuit	

< No. 1 Subcategory Information on "Failure in 3-wire serial communication of Main microcomputer" >

Value	Shutdown Factor	Remarks (Operation)
0	Non subcategory	
1	IF microcomputer communication failure	IF (immediately Power Supply OFF)
2	MANTA communication failure (MULTI)	MULTI1 (immediately Power Supply OFF)
4	MANTA communication	I/P
5	MANTA communication	D-SEL

< No. 2 Subcategory Information on "Failure in IIC communication of Main microcomputer" >

Value	Shutdown Factor	Remarks (Operation)
0	Non subcategory	
1	Analog tuner1 (Front end 1)	FE1 (immediately Power Supply OFF)
3	MPX	MPX (After 3 times reset action, turn Power Supply off (except for us))
4	AV switch	AV-SW (immediately Power Supply OFF)
5	RGB switch	RGB-SW (immediately Power Supply OFF)
8	Main VDEC	M-VDEC (immediately Power Supply OFF)
9	Sub VDEC	S-VDEC (immediately Power Supply OFF)
A	AD/PLL	ADC (immediately Power Supply OFF)
B	HDMI	HDMI (immediately Power Supply OFF)
E	M2 communication	TX-COM (After 3 times reset action, turn Power Supply off)
F	M2 busy	TX-BSY (After 3 times reset action, turn Power Supply off)
G	64k EEPROM	MA-EEP (immediately Power Supply OFF)
H	AUDIO IC	

< No. 3 Subcategory Information on "Digital tuner" >

Value	Shutdown Factor	Remarks (Operation)
0	Non subcategory	
1	DTV starting failure	PS/RST (The history is left, and intercepts it the communication)
2	DTV communication failure	RETRY (The history is left, and intercepts it the communication)

< No. 4 Subcategory Information on "POWER" >

Value	Shutdown Factor	Remarks (Operation)
1	DCDC Converter heden	M-DCDC (immediately Power Supply OFF)
2	Relay Power supply heden	RELAY (immediately Power Supply OFF)

9.3.12 DRV

Drive ON/OFF: ON/OFF control for only the large-power system

Command Format	Effective Operation Modes	Function	Remarks
[DRV+S00]	Every time	DRIVE OFF	At standby mode, when 10 seconds passed after issuing [DRV+S00], command becomes invalid.
[DRV+S01]	Every time	DRIVE ON	

9.3.13 OTHER COMMANDS

■ Setting for Factory mode permission/prohibition • • • [FAY/FAN]

The commands FAY/FAN are for prohibiting/permitting panel-adjustment commands.

Command Format	Operation		Remarks
	Effective Operation Modes	Control	
[FAY]	Normal operation mode while the power is on	Adjust command is valid.	Mask indications will be forcibly turned off.
[FAN]	During FAY	Adjust command is invalid.	

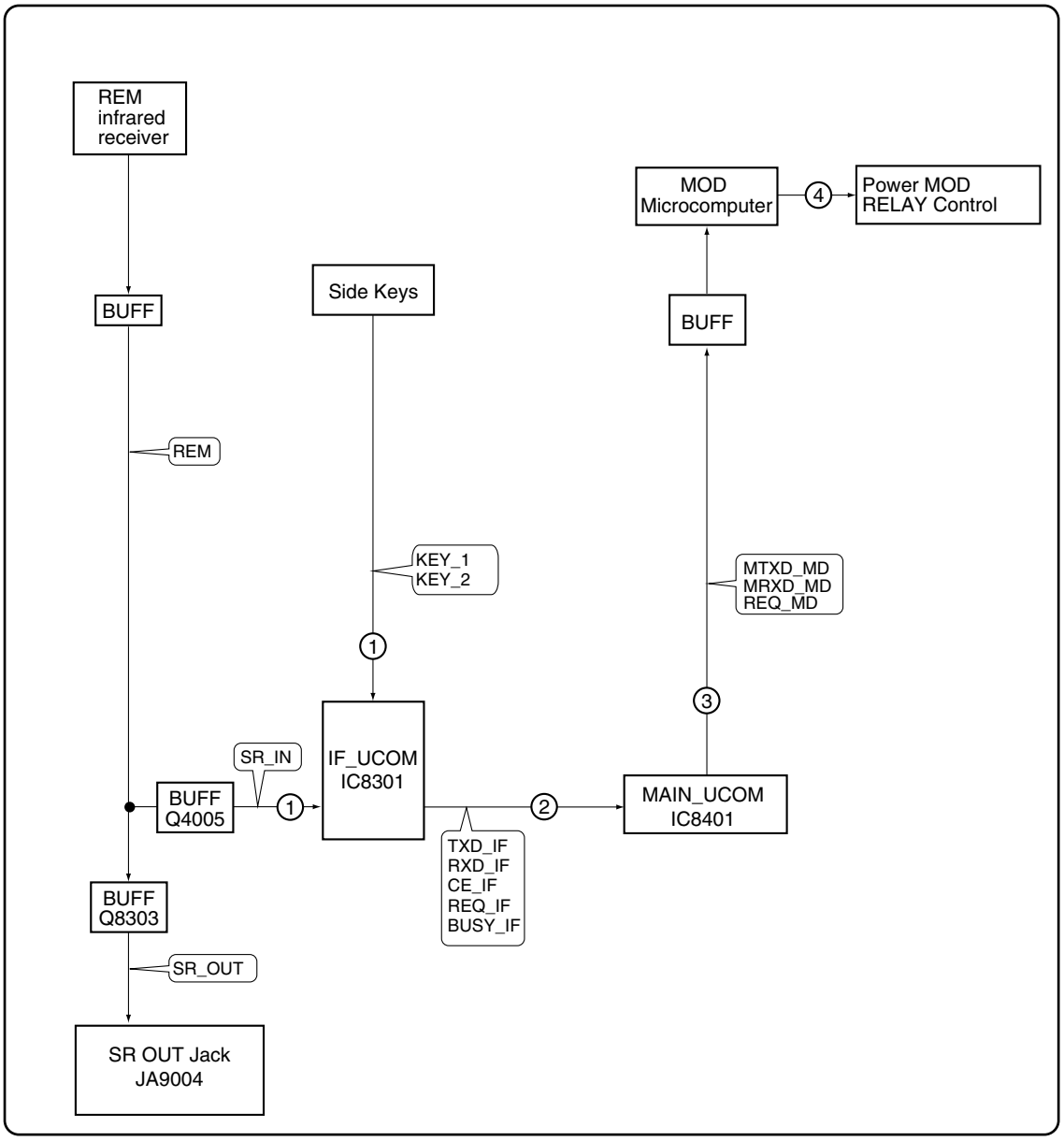
■ Backup function for adjustment values for the main unit • • • [FAJ/UAJ/CBU/BCP]

When the DIGITAL Assy is to be replaced, adjustment values can be copied from the backup EEPROM to the EEPROM of the Assy for service.

Command Format	Operation			Remarks
	Effective Operation Modes	Control		
[FAJ]	During FAY	To make the flag setting that indicating that adjustment of the panel unit has been completed	Writing 00 to the 4 k byte ROM and copying to the 2 k byte ROM	This takes at least 350 ms.
[UAJ]		To make the flag setting that indicating that adjustment of the main unit has not been completed	Writing F0 to the 4 k byte ROM	
[CBU]		To make the flag setting that indicating that backup data have not been copied	Writing F0 to the 2 k byte ROM	The backup ROM is initialized.
[BCP]		To copy Digital backup data to EEPROM	Copying backup data	

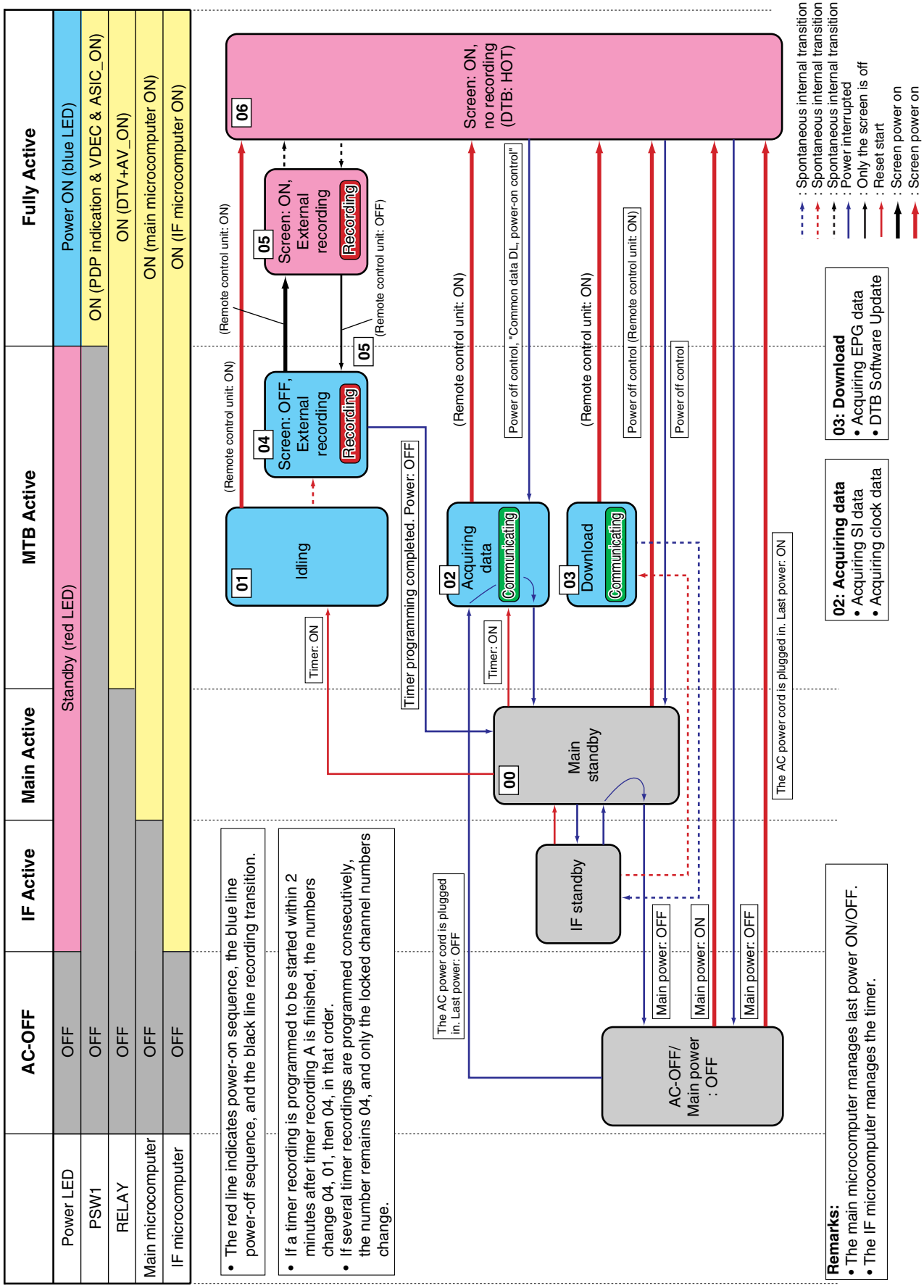
10. GENERAL INFORMATION

10.1 POWER ON SEQUENCE

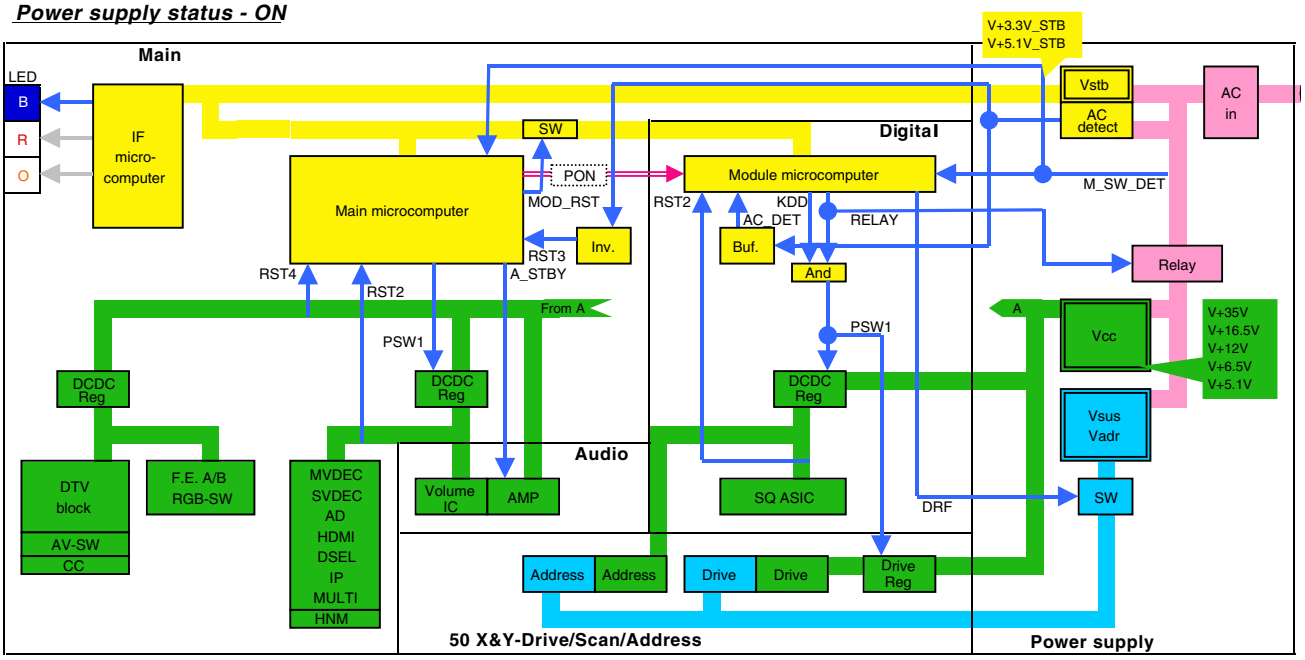


① : The remote control (or KEY) signal is input to the IF microcomputer.
② : The IF microcomputer sends the operation data to the main microcomputer.
③ : The main microcomputer issues a startup command to the MOD microcomputer.
④ : The MOD microcomputer controls the relay of the power MOD of the PDP to startup the power of the PDP.

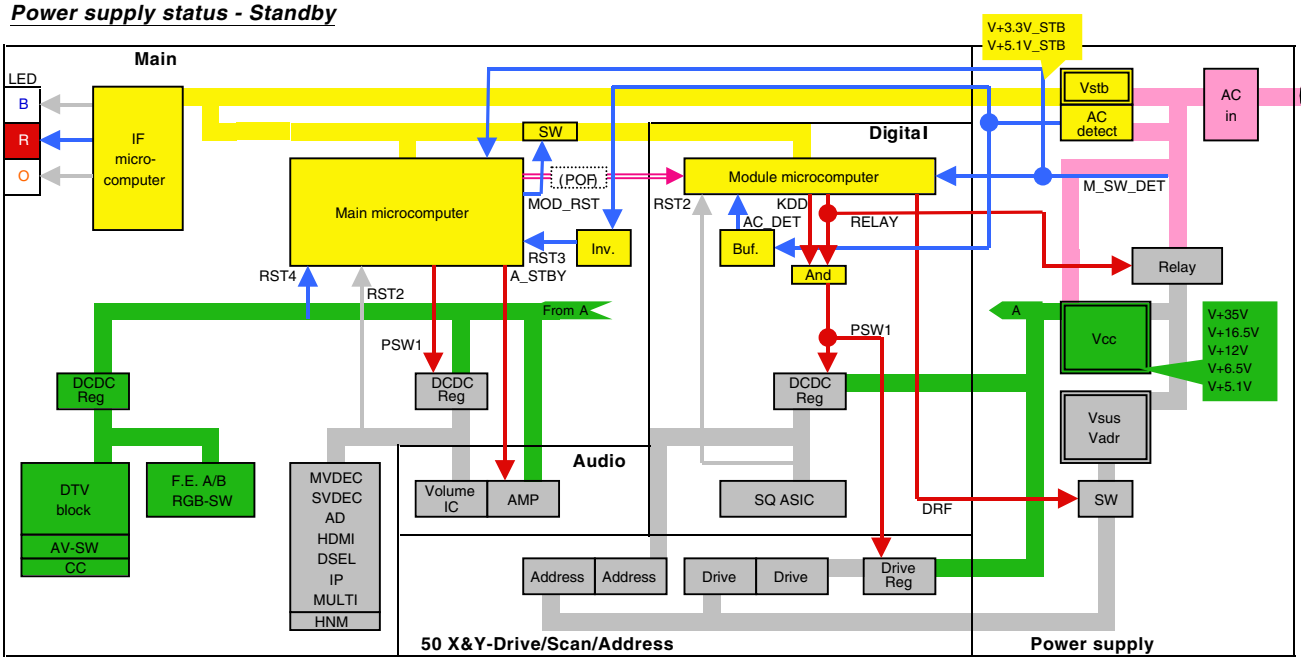
10.2 POWER SUPPLY TRANSITION STATUS


AC-OFF
IF Active
Main Active
MTB Active
Fully Active
Power LED
PSW1
RELAY
Main microcomputer
IF microcomputer
OFF
Standby (red LED)
Power ON (blue LED)
ON (PDP indication & VDEC & ASIC_ON)
ON (DTV+AV_ON)
ON (main microcomputer ON)
ON (IF microcomputer ON)
• The red line indicates power-on sequence, the blue line power-off sequence, and the black line recording transition.
• If a timer recording is programmed to be started within 2 minutes after timer recording A is finished, the numbers change 04, 01, then 04, in that order.
• If several timer recordings are programmed consecutively, the number remains 04, and only the locked channel numbers change.
01 Idling
02 Acquiring data
Communicating
03 Download
Communicating
04 Screen: OFF, External recording
Recording
05 Screen: ON, External recording
Recording
06 Screen: ON, no recording (DTB: HOT)
00 Main standby
IF standby
AC-OFF/ Main power : OFF
(Remote control unit: ON)
(Remote control unit: OFF)
Timer: ON
Timer programming completed. Power: OFF
Power off control, "Common data DL power-on control"
Power off control (Remote control unit: ON)
Power off control
The AC power cord is plugged in. Last power: OFF
The AC power cord is plugged in. Last power: ON
Main power: OFF
Main power: ON
02: Acquiring data
• Acquiring SI data
• Acquiring clock data
03: Download
• Acquiring EPG data
• DTB Software Update
: Spontaneous internal transition
: Spontaneous internal transition
: Spontaneous internal transition
: Power interrupted
: Only the screen is off
: Reset start
: Screen power on
: Screen power on
Remarks:
• The main microcomputer manages last power ON/OFF.
• The IF microcomputer manages the timer.

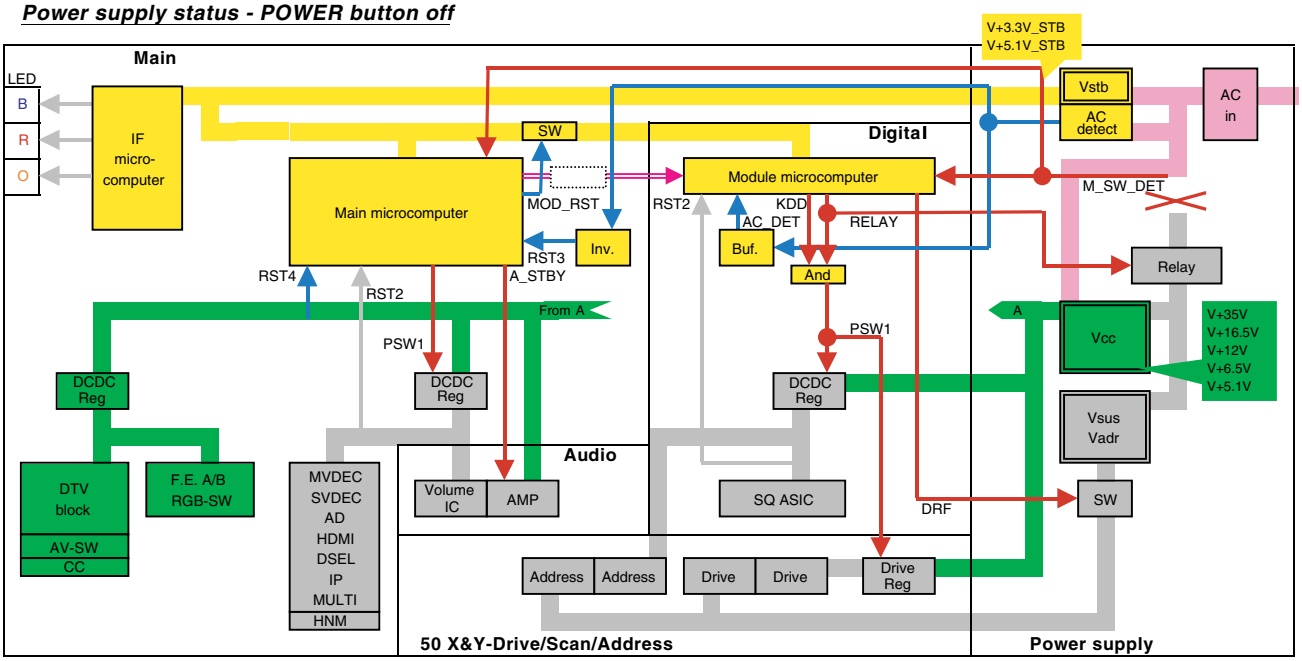
Power supply status - ON



Power supply status - Standby

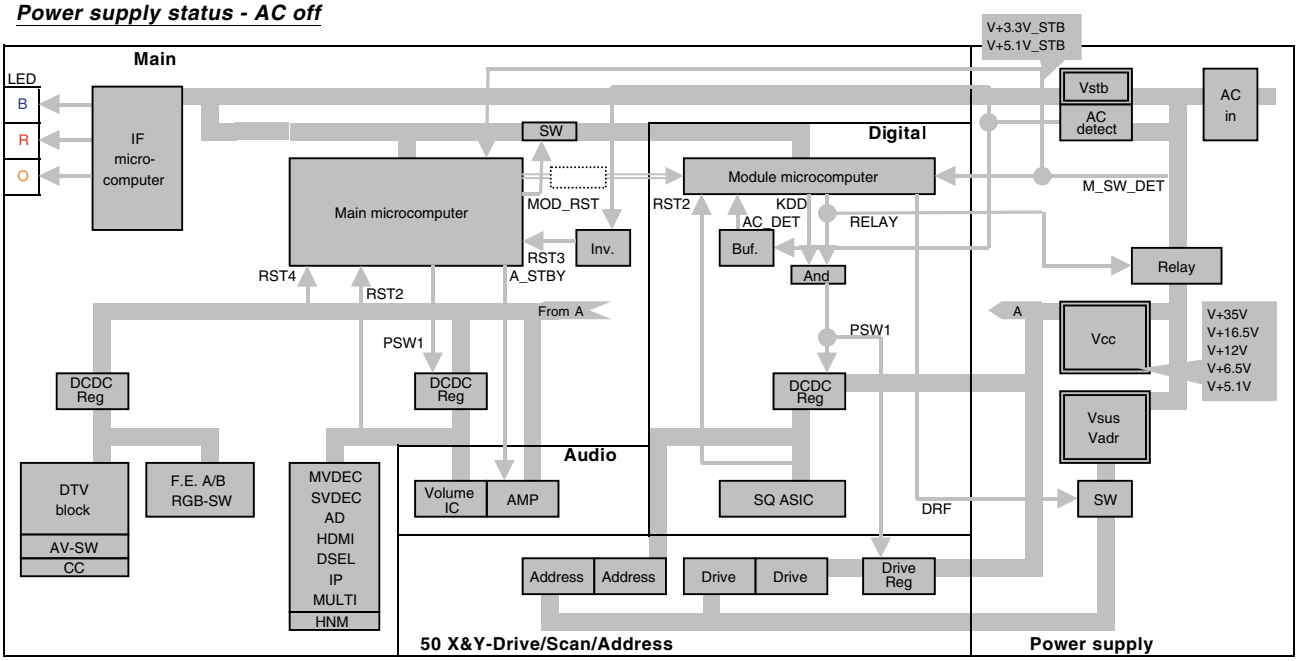


Power supply status - POWER button off



This state of the power supply is the same as the Standby mode.
However, all LED is turned off, and the operation by the user is not effective.

Power supply status - AC off



10.3 POWER ON/OFF FUNCTION FOR THE LARGE-SIGNAL SYSTEM

Function: It is an operational mode where the digital signal processing performs circuit operation but the power is not supplied to the panel driving system (large signal system) in order to avoid a power down.

Application:

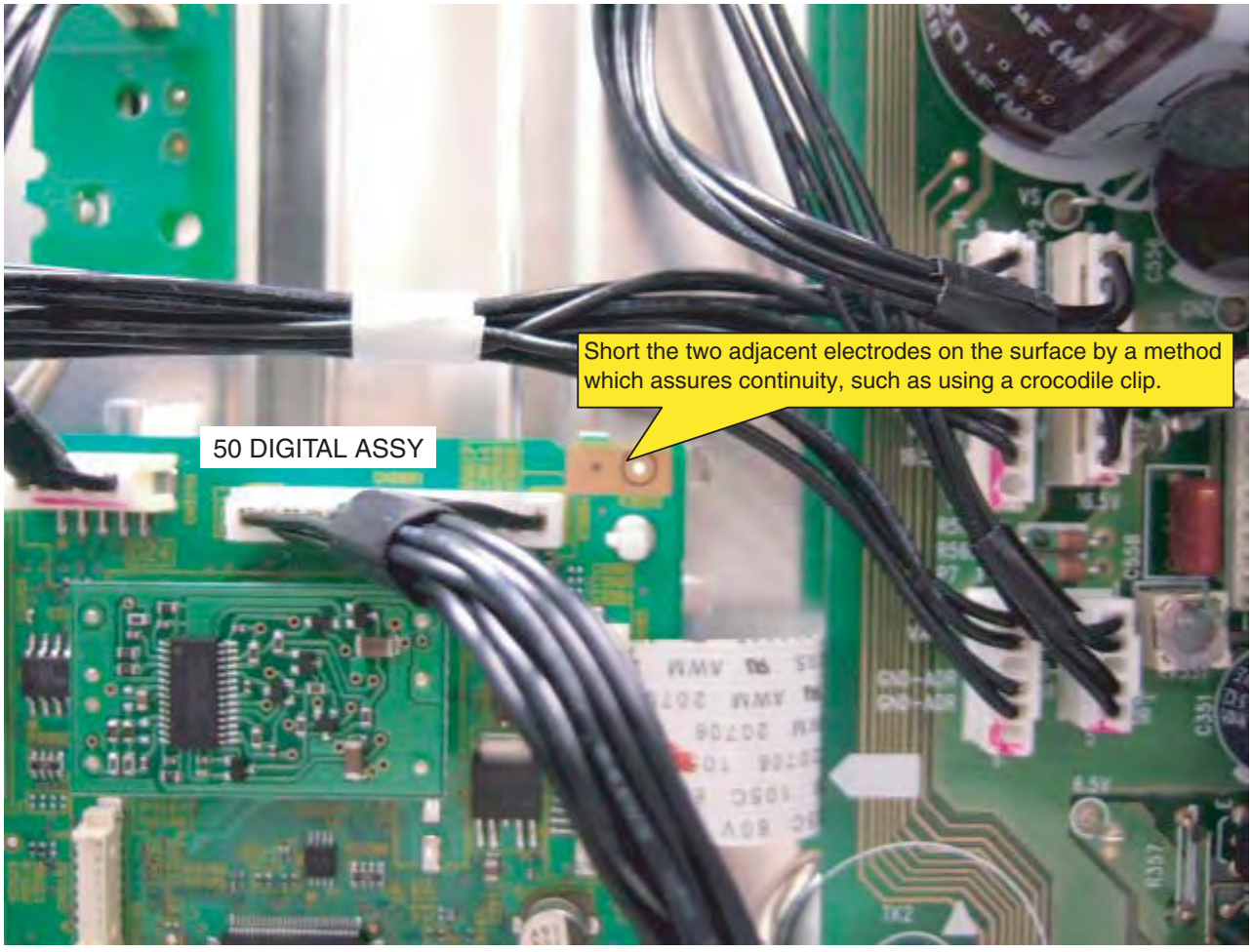
1. When it is necessary to check whether the signal output is correctly reaching the drive system in a repairing activity etc.
2. In the case of a PD, to determine whether the problem is with the large signal system power supply or with the small signal system power supply.

Method:

1. Make shorting between the specified location (refer to the illustration below) of the PCB surface of the 50 DIGITAL ASSY and the nearby pattern.
2. Execute [DRV S00] by RS232C command. ([DRV S01] for release)

Supplemental explanation:

- When the large signal system power supply is in OFF state, there will be no PD, except PS_PD, as the PD signal has been muted.
- If the clip is removed in the OFF state of the large signal system power supply, PD will take place at the instance of clip removal. Therefore, be sure to remove the clip after turning the power OFF.
- Under RS232C command control, [DRVS01] (release) is possible during power ON. However, there is a possibility of damaging the set. Therefore, make this operation only after turning the power OFF.
- Command [DRVS00/S01] is effective even during standby. When the main power is turned OFF, however, [DRVS01] (release) will be effective.


Short the two adjacent electrodes on the surface by a method which assures continuity, such as using a crocodile clip.
50 DIGITAL ASSY

10.4 LED INFORMATION

■ LED Pattern

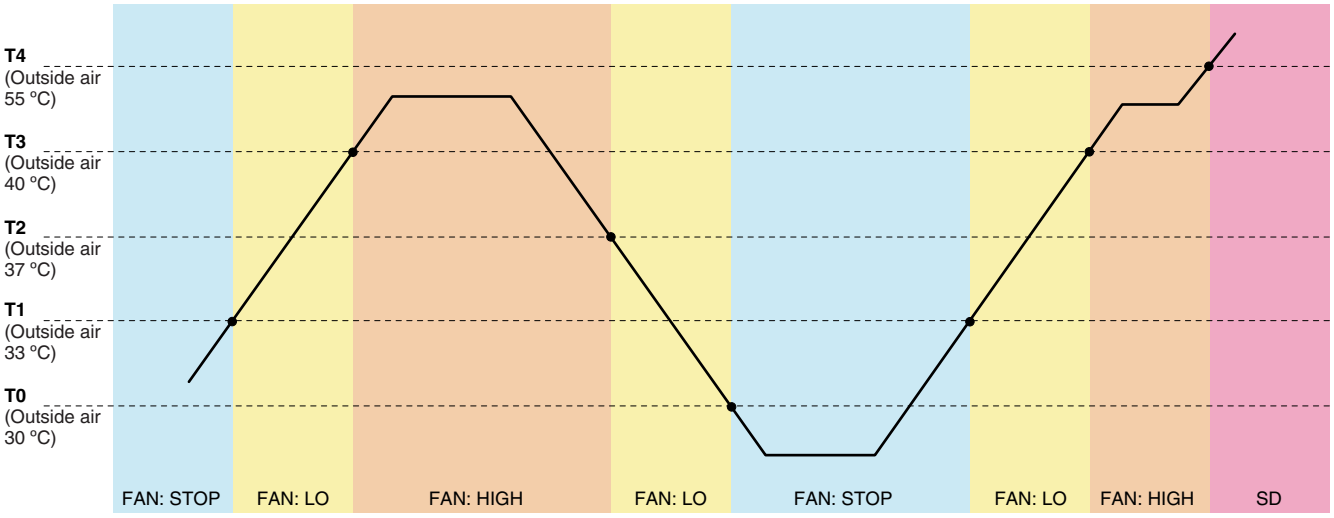
State	LED Pattern	
AC OFF or Main power switch OFF	Blue Red Orange	
Standby power management	Blue Red Orange	
Power ON	Blue Red Orange	
Power-down	Blue Red Orange Once 500 msec Twice n times 2.5 sec Once	
Shutdown	Blue Red Orange Once 500 msec Twice n times 2.5 sec Once	
No digital adjustment data copied for backup	200 msec Blue Red Orange	
In the process of rewriting the program of the microcomputer	100 msec Blue Red Orange 100 msec	
During reservation video recordings (Unit: Standby)	Blue Red Orange	PDP- 507XD only
During factory operation During reservation video recordings (Unit: ON) ∗1 During sleep timer operation (∗2)	Blue Red Orange	
RS-232C <=> SR+ switch	Blue 200 msec Red Orange	

∗1: PDP-507XD types
∗2: PDP-507XA types

10.5 SPECIFICATION ABOUT THE THERMAL PROTECTION

* The change of HI / LO have hysterisis curve below.

■ Reading Value of the Sensor and FAN Drive



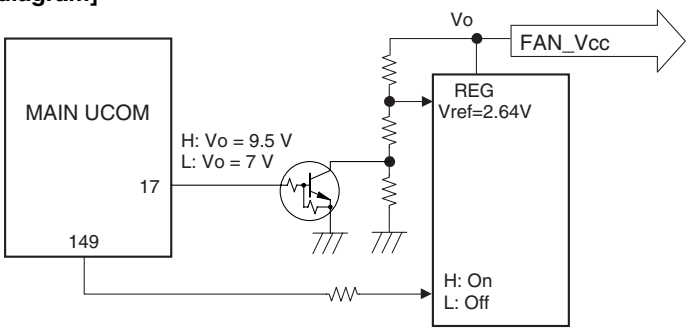
Assign			AD Value 10 bit	Aims (Sensor Position)	Aims (Outside Air)
Pin 76	TEMP2	T4 setting	440	55 °C	55 °C
		T3 setting	568	40 °C	40 °C
		T2 setting	592	37 °C	37 °C
		T1 setting	627	33 °C	33 °C
		T0 setting	653	30 °C	30 °C

Assign	FAN: HIGH	FAN: LO	STOP
Pin 149 (FAN_CONT)	H	H	L
Pin 17 (FAN_CONT_POW)	H	L	–

■ Unit State and Fan Drive

POWER	PSW1	State	Control	FAN Operation
ON	ON	ON	According to the reading value of above table sensor.	HIGH or LO
ON	ON	DT_REC	According to the reading value of above table sensor.	HIGH or LO
OFF	–	STB	FAN_CONT: "L"	OFF

[System block diagram]



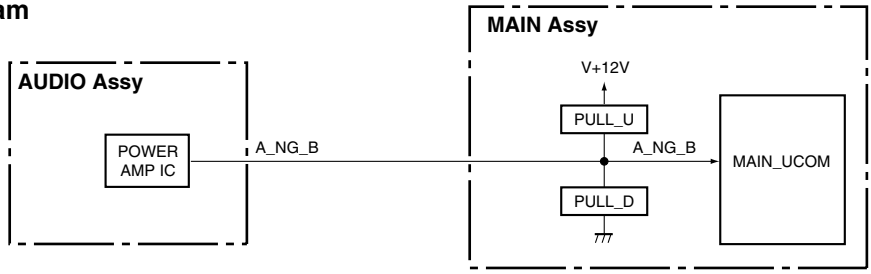
■ Operation when executing FAN control command

When executing [FCNS00], [FCNS01], [FCNS02] command, detect the FAN_NG signal. When NG is detected, it becomes shutdown.
When [FCNS03] command is executed, FAN_NG detection is not operated.

10.6 PROCESSING IN ABNORMALITY

Speaker short-circuit

● **Circuit diagram**

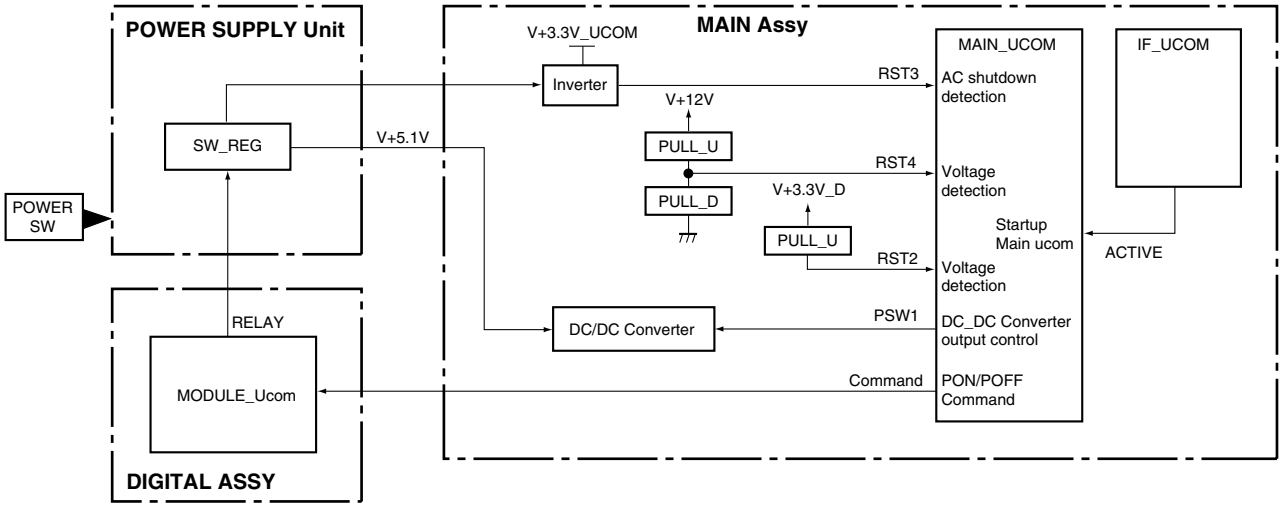


● **Specifications for port monitoring**

Port Name	SD/PD Indication	Assigned Pin	Active
A_NG_B	AUDIO		Shutdown with L

Power supply and DC-DC converter

● **Circuit diagram**

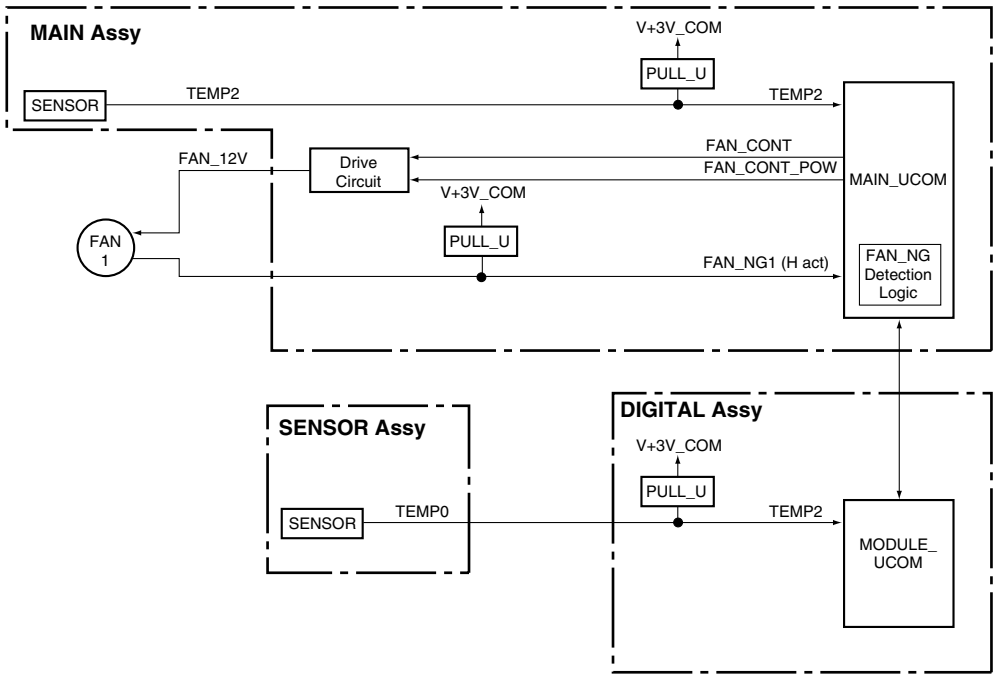


● **Specifications for port monitoring**

Port Name	SD/PD Indication	Assigned Pin	Active
RST2	ASIC power		Shutdown with L
RST3	AC power		AC_OFF with H
RST4	MAIN power		Shutdown with L

Fan and temperature sensor

● Circuit diagram

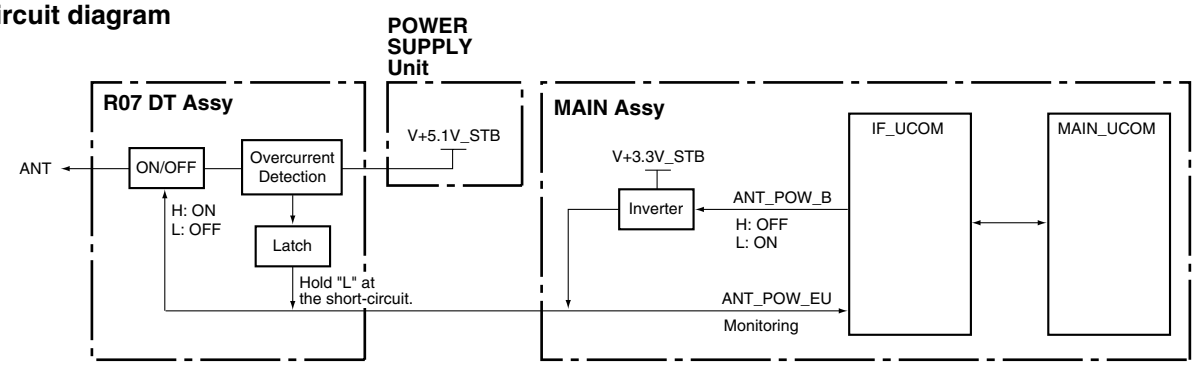


● Specifications for port monitoring

Port Name	SD/PD Indication	Assigned Pin	Active
FAN_NG 1	FAN		Shutdown with H
TEMP2	Abnormally high temperature in the MR		Shutdown when the value exceeds the predetermined value
TEMP0	Abnormally high temperature in the Drive circuit		Shutdown when the value exceeds the predetermined value

DTB antenna power supply

● Circuit diagram



● Specifications for port monitoring

Port Name	SD/PD Indication	Assigned Pin	Active
ANT_POW_EU	DTB antenna short	IF_37	Warning with L

11. SPECIFICATIONS

11.1 MAIN SPECIFICATIONS

Item			50" Plasma Television, Model: PDP-507XD	Model: PDP-507XA
Number of Pixels			1365 x 768 pixels	1365 x 768 pixels
Audio Amplifier			13 W + 13 W (1 kHz, 10 %, 8)	13 W + 13 W (1 kHz, 10 %, 8)
Speakers			–	–
Surround System			SRS/FOCUS/TruBass	SRS/FOCUS/TruBass
Power Requirement			220 V to 240 V AC, 50 Hz/60 Hz, 348 W (0.7 W Standby)	220 V to 240 V AC, 50 Hz/60 Hz, 341 W (0.3 W Standby)
Dimensions			1224 mm (W) x 717 mm (H) x 115 mm (D)	1224 mm (W) x 717 mm (H) x 115 mm (D)
Weight			34.7 kg (76.5 lbs.)	34.1 kg (75.2 lbs.)
Colour System		Analogue	PAL/SECAM/NTSC 3.58/NTSC 4.43/PAL 60	
		Digital	PAL/SECAM	
TV Function (Analogue)	Receiving System		B/G, D/K, I, L/Lí	
	Tuner	VHF/UHF	E2–E69ch, F2–F10ch, I21–I69ch, IR A–IR Jch	
		CATV	Hyper-band, S1ñS41ch	
	Auto Channel Preset		99 ch, Auto Preset, Auto Label, Auto Sort	
	STEREO		NICAM/A2	
TV Function (Digital) (*)	Receiving System		DVB-T (2K/8K COFDM)	
	Tuner	VHF/UHF	VHF Band III (170 MHz to 230 MHz) and UHF Band IV, V (470 MHz to 862 MHz)	
	Auto Channel Preset		999 ch, Auto Preset, Auto Label, Auto Sort	
	STEREO		MPEG layer I/II, Dolby Digital	
Terminals	Rear	INPUT 1	SCART (AV in, RGB in, TV out)	
		INPUT 2	SCART (AV in/out, S-VIDEO in, AV link *1) Component Video	
		INPUT 3	SCART (AV in/out, S-VIDEO in, RGB in, AV link *1), HDMI in*2	
		INPUT 4	HDMI in*2	
		CONTROL OUT	1	
		SPEAKER	8 to 16	
		Antenna	75 Din Type for VHF/UHF in (Analogue)	
			75 Din Type for VHF/UHF in (Digital) (*)	
			75 Din Type for VHF/UHF out (Digital) (*)	
		PC	Analogue RGB in PC INPUT (AUDIO)	
	Side	INPUT 5	S-VIDEO, AV in	
AUDIO OUTPUT Terminal		(Rear)	AUDIO out (Fixed)	
SUB WOOFER OUTPUT Terminal		(Rear)	Variable	
PHONES OUTPUT Terminal		(Side)	16 to 32 recommended	
DIGITAL OUT Terminal (*)		(Rear)	Digital audio output (Optical)	
COMMON INTERFACE (*)		(Rear)	CA Module	

*1 Selectable from the menu

(*) : PDP-507XD Only

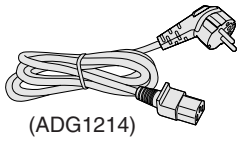
*2 This conforms to HDMI1.1 and HDCP1.1.
HDMI (High Definition Multimedia Interface) is a digital interface that handles both video and audio using a single cable.
HDCP (High-bandwidth Digital Content Protection) is a technology used to protect copyrighted digital contents that use the Digital Visual Interface (DVI).

Design and specifications are subject to change without notice.

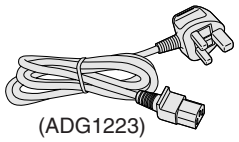
11.2 ACCESSORIES

Supplied Accessories

Power cord (2 m)

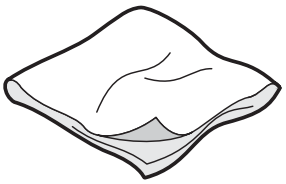


(ADG1214)
(For Europe, except UK and Eire)

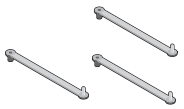


(ADG1223)
(For UK and Eire)

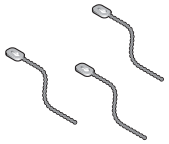
Only the power cord that is appropriate in your country or region is supplied.



Cleaning cloth
(AED1285)

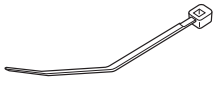


Speed clamp x 3

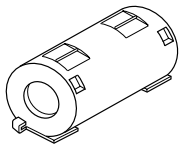


Bead band x 3

Binder Assy
(AED1908)

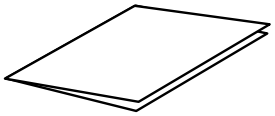


Cable tie

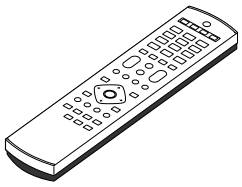


Ferrite core

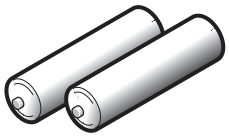
Ferrite core
(ATX1039)



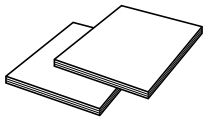
Warranty card



Remote control unit
(AXD1532 : PDP-507XD)
(AXD1540 : PDP-507XA)



AA size battery x 2

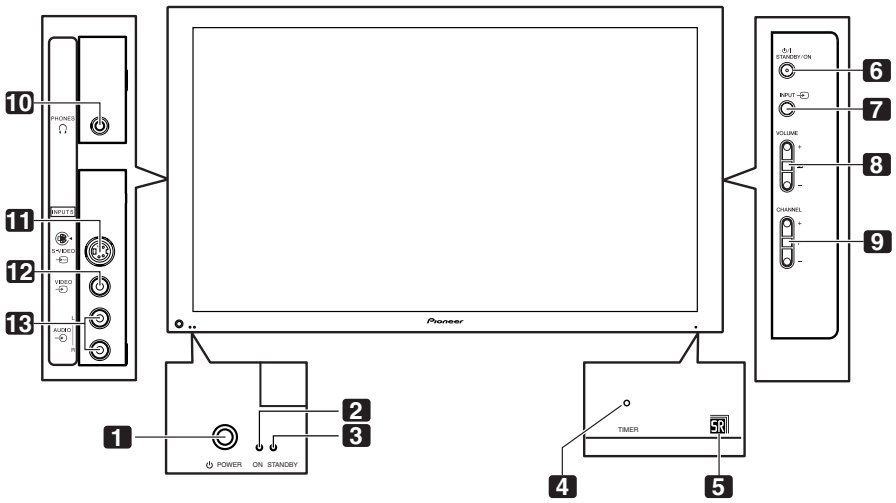


Two operating instructions

11.3 PANEL FACILITIES

Plasma Television

Front view

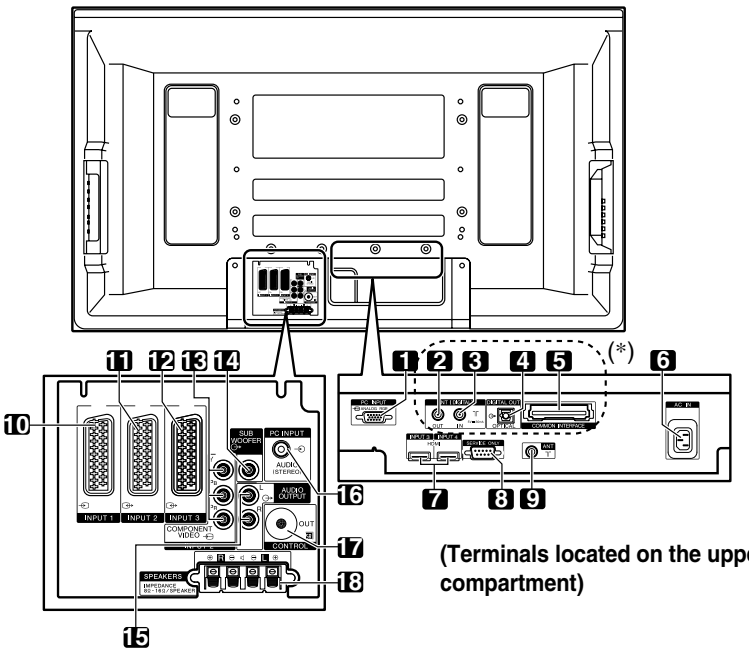


1 **POWER** button
2 POWER ON indicator
3 STANDBY indicator
4 TIMER indicator
5 Remote control sensor

(Side view)
6 **STANDBY/ON** button
7 **INPUT** button
8 **VOLUME +/–** buttons
9 **CHANNEL +/–** buttons

10 PHONES output terminal
11 INPUT 5 terminal (S-VIDEO)
12 INPUT 5 terminal (VIDEO)
13 INPUT 5 terminals (AUDIO)

Rear view



(Terminals located on the upper edge of the compartment)

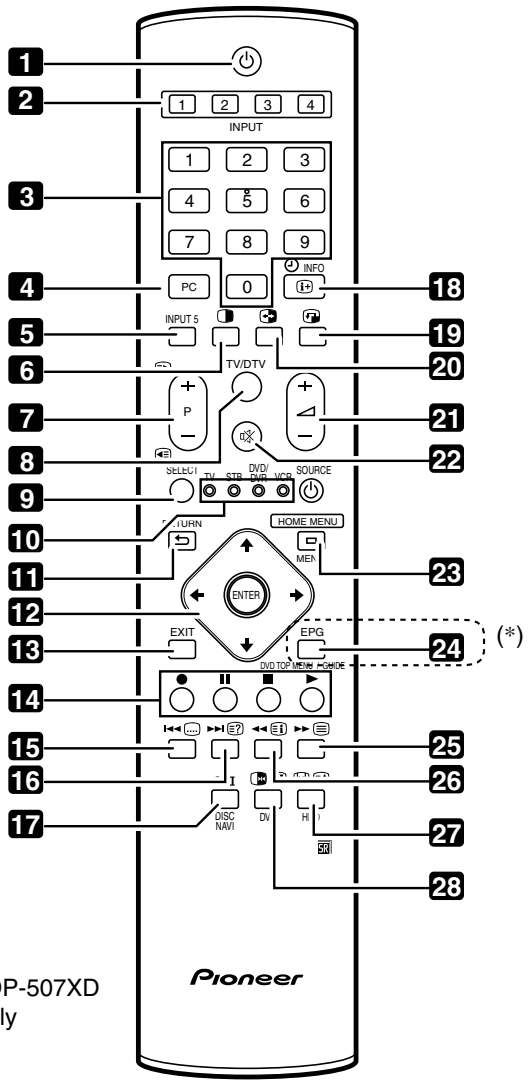
(*) : PDP-507XD Only

1 PC INPUT terminal (ANALOG RGB)
2 ANT OUT terminal (Antenna through out) (*)
3 ANT IN terminal (Antenna in for DTV)
• Power can be supplied through this terminal
4 DIGITAL OUT terminal (OPTICAL)
5 COMMON INTERFACE slot
• For a CA Module with a smart card
6 AC IN terminal
7 INPUT 3/INPUT 4 terminals (HDMI)
8 RS-232C terminal (used for factory setup)
9 ANT (Antenna) input terminal

10 INPUT 1 terminal (SCART)
11 INPUT 2 terminal (SCART)
12 INPUT 3 terminal (SCART)
13 INPUT 2 terminal (COMPONENT VIDEO: Y, P_B, P_R)
14 SUB WOOFER OUTPUT terminal
15 AUDIO OUTPUT terminals
16 PC INPUT terminal (AUDIO)
17 CONTROL OUT terminal
18 SPEAKER (right/left) terminals

Remote control unit

This section describes the functions of the buttons available when the TV mode has been selected using the **SELECT** button. For the buttons for controlling other equipment, see "Controlling other equipment using the supplied remote control unit".



(*) : PDP-507XD Only

1 ⏻
Turns on the power to the Plasma Television or places it into the standby mode.

2 INPUT
Selects an input source of the Plasma Television. (INPUT 1, INPUT 2, INPUT 3, INPUT 4)

3 0–9
TV/External input mode: Selects a channel.
TELETEXT mode: Selects a page.

4 PC
Selects the PC terminal as an input source.

5 INPUT 5
Selects INPUT 5 as the input source of the Plasma Television.

6
Switches the screen mode among 2-screen, picture-in-picture, and single-screen.

7 P+/P–
TV/External input mode: Selects a channel.
/
TELETEXT mode: Selects a page.

8 TV/DTV
Switches between the TV and DTV input modes.

9 SELECT
Switches the selection among TV, STB, DVD/DVR, and VCR, so that you can control other equipment in connection, using the supplied remote control unit.

10 TV, **STB**, **DVD/DVR**, **VCR**
These indicators show the current selection and status when you control other equipment in connection using the supplied remote control unit.

11 RETURN
Restores the previous menu screen.

12 ↑/↓/←/→
Selects a desired item on the setting screen.
ENTER
Executes a command.

13 EXIT
Returns to the normal screen in one step.

14 Colour (RED/GREEN/YELLOW/BLUE)
TELETEXT mode: Selects a page.

15
TV/External input mode: Jumps to the Teletext subtitle page.
DTV input mode: Turns subtitle on and off.

16
TELETEXT mode: Displays hidden characters.

17 I-II
Sets the sound multiplex mode.

18 INFO
TV/External input mode: Displays the channel information.
DTV input mode: Displays the banner information.

19
Moves the location of the small screen when in the picture-in-picture mode.

20
Switches between the two screens when in the 2-screen or picture-in-picture mode.

21 +/–
Sets the volume.

22
Mutes the sound.

23 HOME MENU
TV/External Input mode: Displays the Menu screen.

24 EPG (*)
Display the Electronic Programme Guide.

25
Selects the TELETEXT mode.
(all TV image, all TEXT image, TV/TEXT image)

26
TELETEXT mode: Displays an Index page for the CEEFAX/FLOF format. Displays a TOP Over View page for the TOP format.

27
TV/External input mode: Selects the screen size.

TELETEXT mode: Switches Teletext images. (full/upper half/lower half)

28
TV/External input mode: Free zes a frame from a moving image. Press again to cancel the function.

TELETEXT mode: Stops updating Teletext pages. Press again to release the hold mode.

NOTE

When using the remote control unit, point it at the Plasma Television.

12. IC INFORMATION

• The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

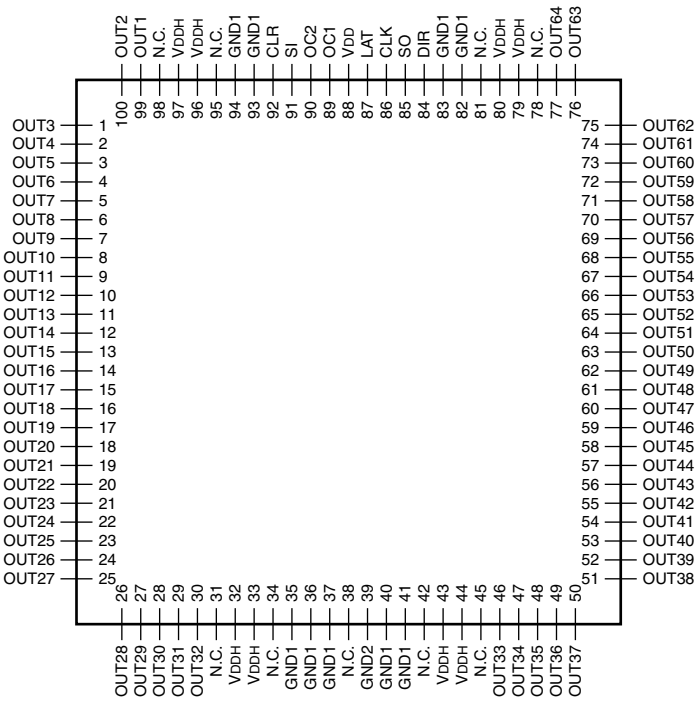
● **List of IC**

SN755870KPZT, R2S11002AFT, R2S11001FT, UPD64015AGM-UEU,AD9985KSTZ-110, SII9023CTU, LTC3414EFE, LTC3412EFE, S1170B25UC-OTA, S1170B15UC-OTA, NJU26901E2

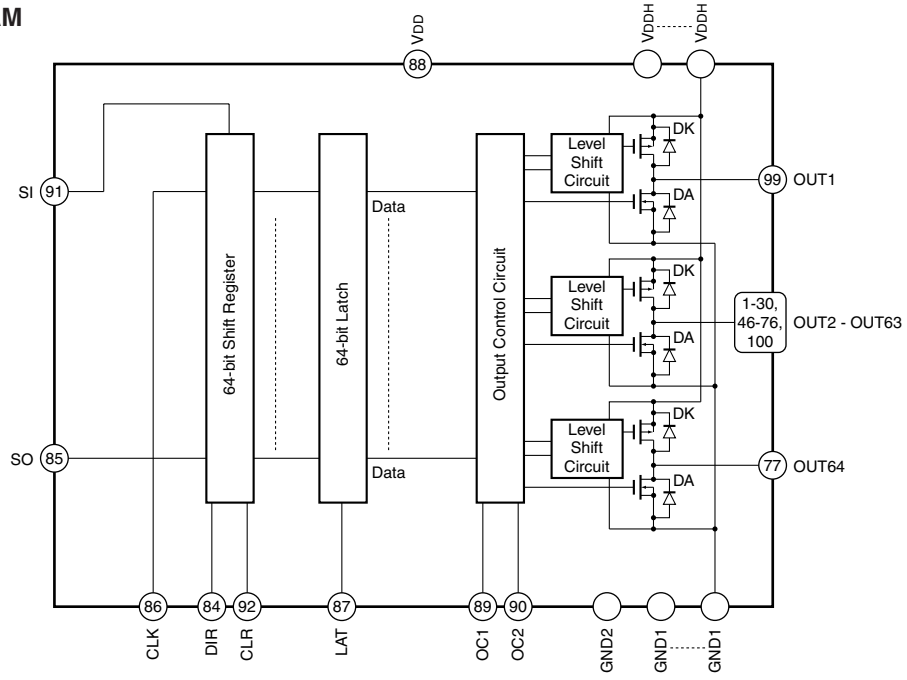
■ SN755870KPZT (50 SCAN A ASSY : IC2801 - IC2806) (50 SCAN B ASSY : IC2901 - IC2906)

• PLASMA DISPLAY PANEL IC

● PIN LAYOUT (Top View)



● BLOCK DIAGRAM



● PIN FUNNCTION

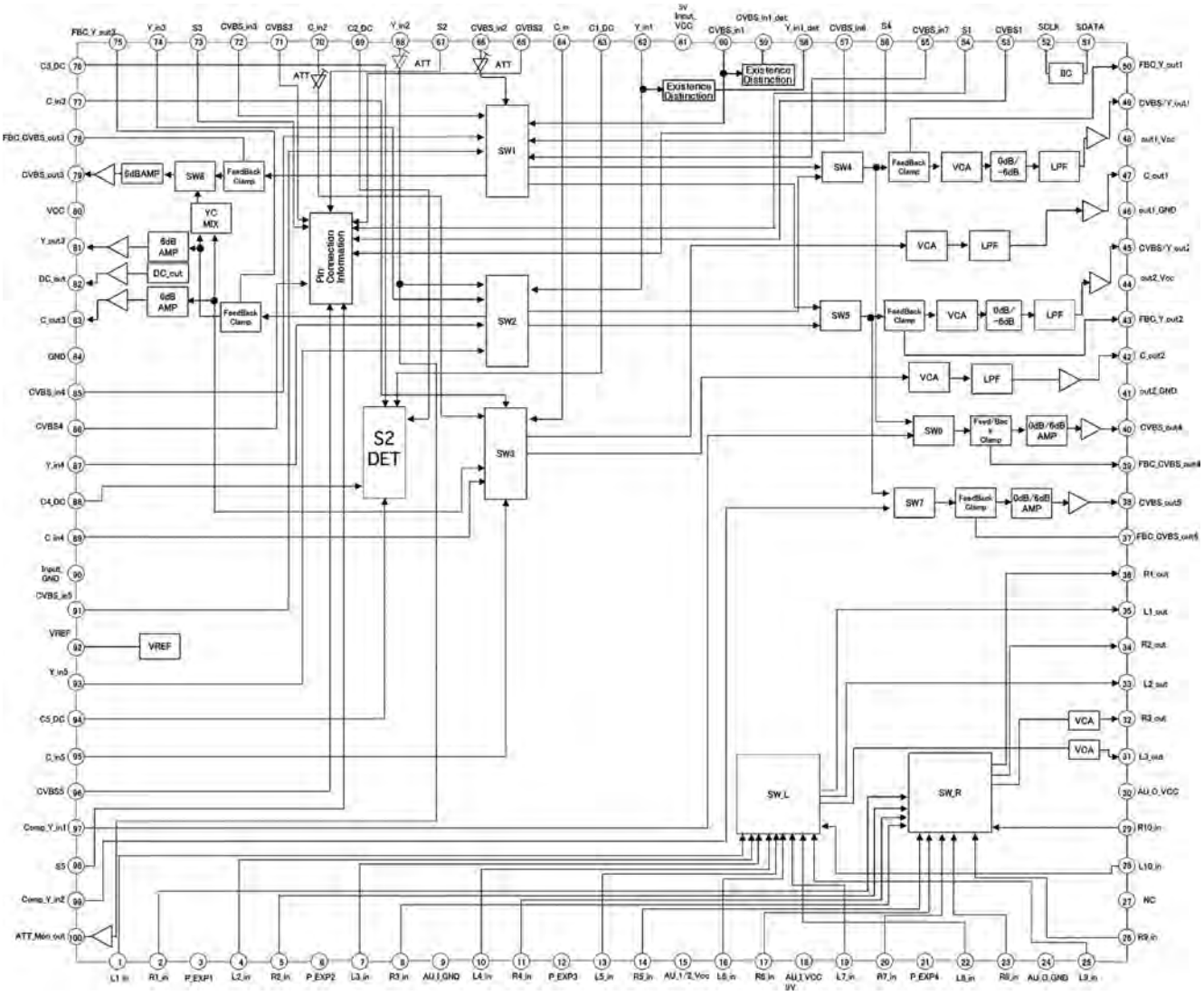
No.	Pin Name	I/O	Pin Function
1 - 30	OUT3 - OUT32	O	High-voltage push-pull output
31	N.C.	–	Not used
32 - 33	V_{DDH}	–	Power for High-voltage circuit
34	N.C.	–	Not used
35 - 37	GND1	–	GND
38	N.C.	–	Not used
39	GND2	–	GND
40 - 41	GND1	–	GND
42	N.C.	–	Not used
43 - 44	V_{DDH}	–	Power for High-voltage circuit
45	N.C.	–	Not used
46 - 77	OUT33 - OUT64	O	High-voltage push-pull output
78	N.C.	–	Not used
79 - 80	V_{DDH}	–	Power for High-voltage circuit
81	N.C.	–	Not used
82 - 83	GND1	–	GND
84	DIR	I	Setting the shift direction of shift-register L : reverse side shift (SO→SI), H : forward side shift (SI→SO)
85	SO	I/O	Serial data In/Out
86	CLK	I	Serial clock Input Down-side edge trigger
87	LAT	I	LAT data Input L : The data of shiftregister is transferred to ouput latch. H : The ouput data of latch is holded.
88	V_{DD}	–	Power for Logic circuit
89	OC1	I	Output control Output is controlled by truth table right side.
90	OC2	I	
91	SI	I/O	Serial data In/Out
92	CLR	I	All output reset CLR terminal : L → normal operation, CLR terminal : H→ All output "H"
93 - 94	GND1	–	GND
95	N.C.	–	Not used
96 - 97	V_{DDH}	–	Power for High-voltage circuit
98	N.C.	–	Not used
99 - 100	OUT1 - OUT2	O	High-voltage push-pull output

OC1	OC2	OUT
L	L	ALL Hi-Z
L	H	DATA
H	L	ALL L
H	H	ALL H

■ R2S11002AFT (MAIN ASSY: IC4701)

• AV SW

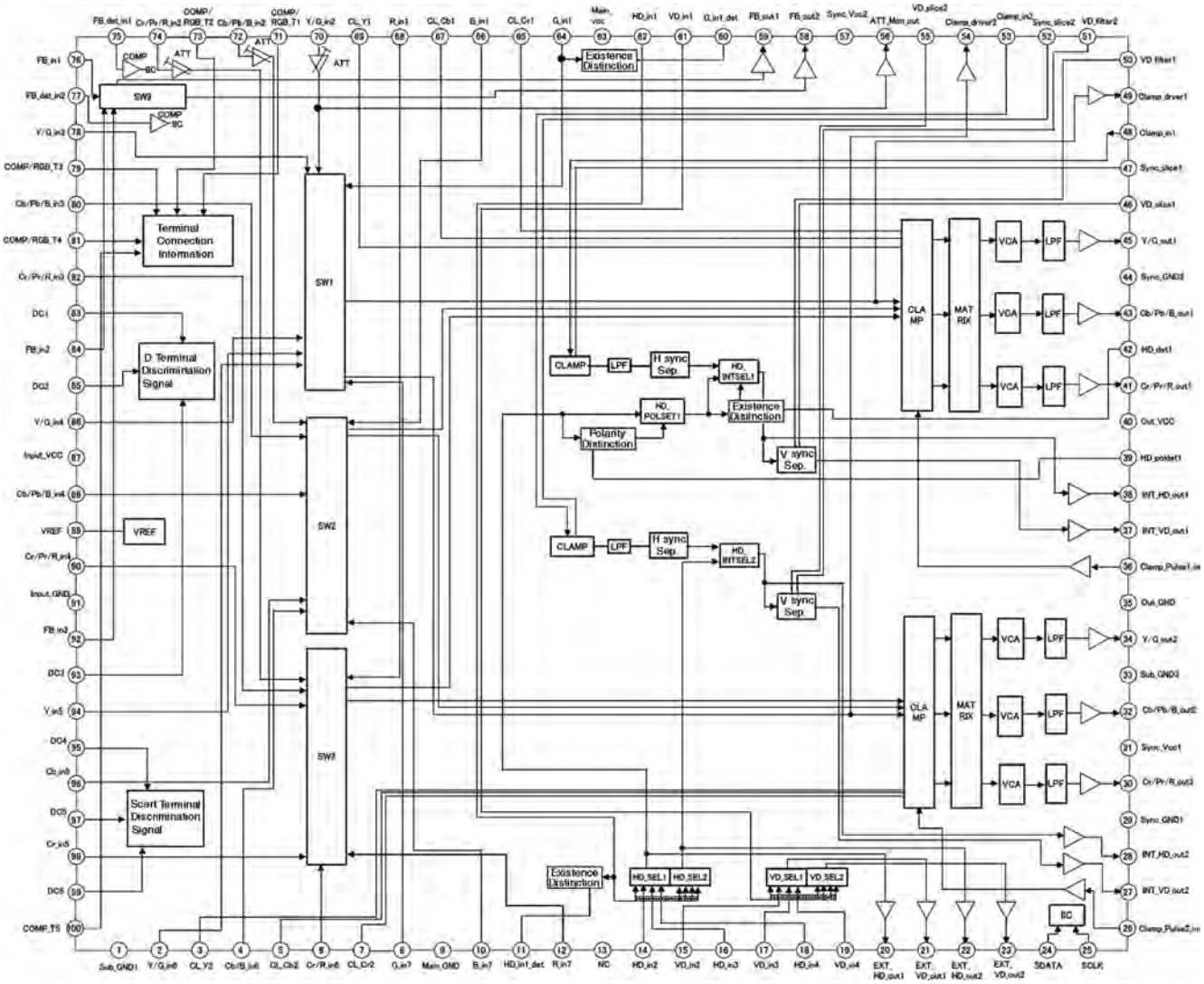
● Block Diagram



■ R2S11001FT (MAIN ASSY: IC4901)

• Component SW IC

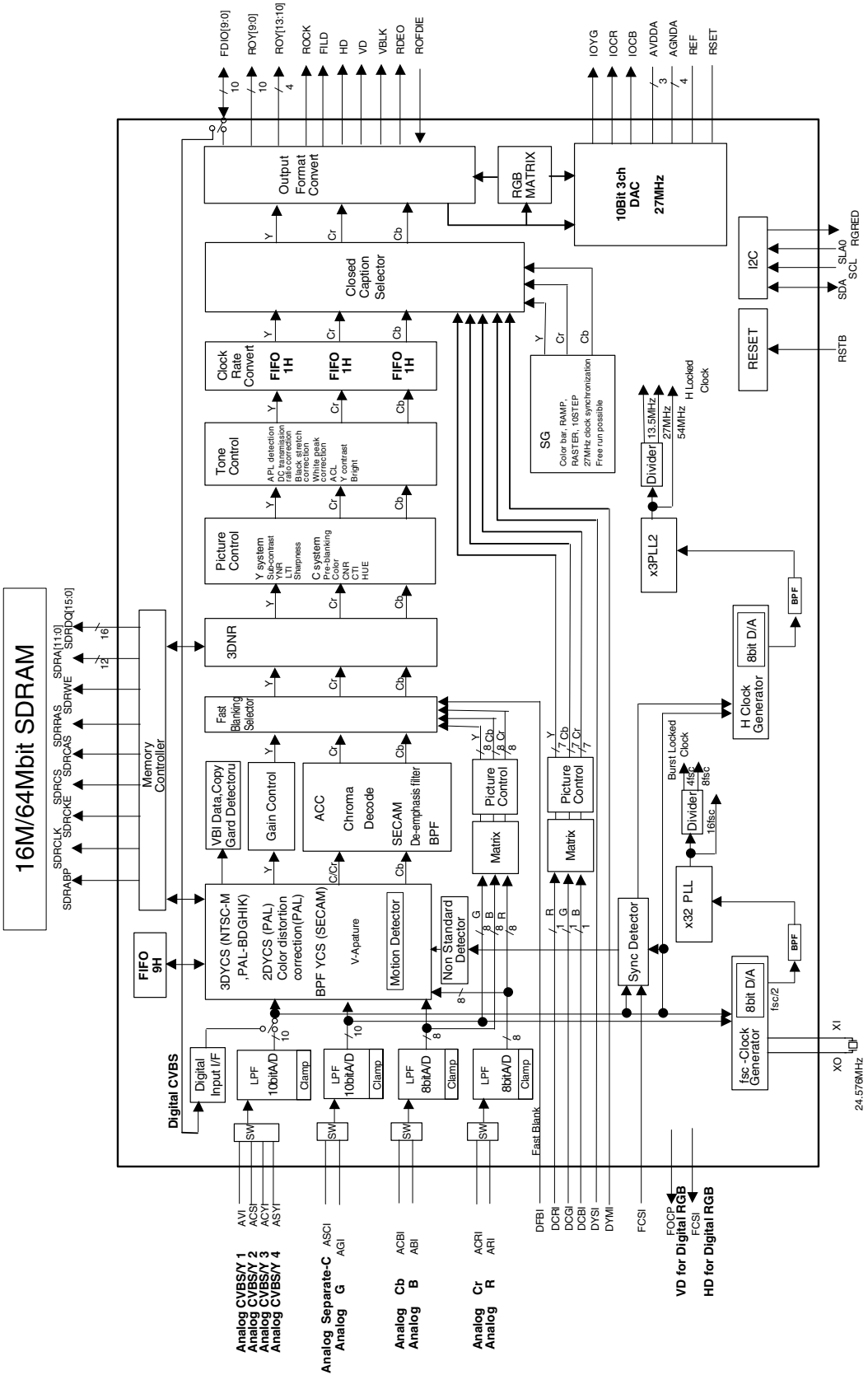
● Block Diagram



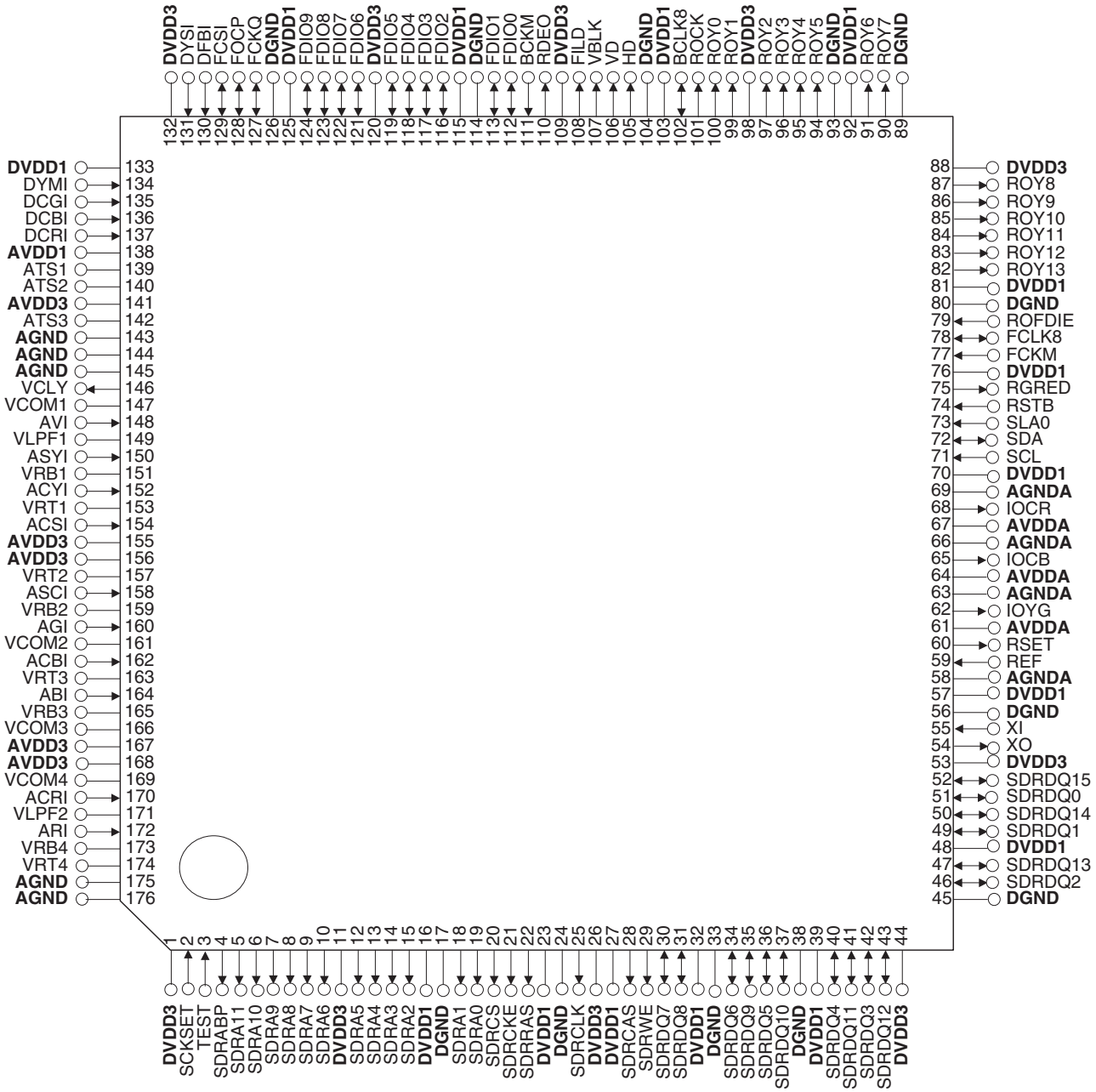
■UPD64015AGM-UEU (MAIN ASSY : IC5101)

• Video decoder (for main screen)

● Block Diagram



● Pin Arrangement (Top View)



● **Pin Function**

2.1 Power supply/ground terminal

Acronyms	Terminal number	I/O	Level	Buffer type PU/PD [kΩ]	Functions
AVDD1	138	–	–	–	Analog 1.5V power supply Connect to the 1.5V power supply. Separate it from the other terminals via a filter.
AVDD3	141	–	–	–	Analog 3.3V power supply Connect to the 3.3V power supply. Separate it from the other terminals via a filter.
	155,156,167,168	–	–	–	Analog 3.3V power supply for ADC. Connect to the 3.3V power supply. Separate it from the other power lines via a filter.
AVDDA	61,64,67	–	–	–	Analog 3.3V power supply for DAC. Connect to the 3.3V power supply. Separate it from the other power lines via a filter.
AGND	143,144,145,175,176	–	–	–	Analog ground
AGNDA	58,63,66,69	–	–	–	Analog ground (for DAC)
DVDD1	16,23,27,32,39,48, 57,70,76,81,92,103, 115,125,133	–	–	–	Digital 1.5V power supply Connect to the 1.5V power supply.
DVDD3	1,11,26,44,53,88,98, 109,120,132	–	–	–	Digital 3.3V power supply Connect to the 3.3V power supply.
DGND	17,24,33,38,45,56, 80,89,93,104,114, 126	–	–	–	Digital ground

2.2 System reset terminal

Acronyms	Terminal number	I/O	Level	Buffer type PU/PD [kΩ]	Functions
RSTB	74	I	Schmitt	–	System reset input (Active-Low)

● **Pin Function**

2.3 I2C bus interface terminal

Acronyms	Terminal number	I/O	Level	Buffer type PU/PD [kΩ]	Functions
RGRED	75	O	LVTTL N-ch open drain	6 mA	I^2C register lead flag output (Active-Low)
SCL	71	I	LVTTL	Fail-safe	I^2C bus clock input Connect to the SCL line of the system.
SDA	72	I/O	LVTTL N-ch open drain	Fail-safe 6 mA	I^2C bus data input/output Connect to the SDA line of the system.
SLA0	73	I	LVTTL	–	I^2C bus slave address selection input (L : B8h/B9h, H : BAh/BBh) Connect to GND when set to low level and to DVDD3 (3.3V) when set to high level.

2.4 Terminal for test

Acronyms	Terminal number	I/O	Level	Buffer type PU/PD [kΩ]	Functions
SCKSET	2	I	LVTTL	–	Test mode selection (L: normal, H: test mode)
TEST	3	I	LVTTL	–	Test setting (L: normal, H: test mode)
FCKM	77	I	LVTTL	–	FCLK8 test mode selection (L: normal, H: test mode)
BCKM	111	I	LVTTL	–	Test mode selection of BCLK8 terminal. (L: normal, H: test mode)
ATS1	139	I	Analog	–	Analog test input Connect to GND normally.
ATS2	140	I	Analog	–	Analog test input Connect to GND normally.
ATS3	142	I	Analog	–	Analog test input Connect to GND normally.
VLPF1	149	O	Analog	–	Analog test output Connect to GND via a 0.1μF capacitor.
VLPF2	171	O	Analog	–	Analog test output Connect to GND via a 0.1μF capacitor.

Caution: Connect these terminals for test to GND unless otherwise instructed.

● **Pin Function**

2.5 Clock generator terminal

Acronyms	Terminal number	I/O	Level	Buffer type PU/PD [kΩ]	Functions
XI	55	I	Analog	–	Reference clock input Connect 24.576MHz crystal oscillator.
XO	54	O	Analog	–	Reference clock output Connect 24.576MHz crystal oscillator.
BCLK8	102	I/O	LVTTL 3-state	6 mA	Subsequent stage line lock clock monitor input/output It will become Hi-Z when BCK8OUT (SA1Fh, D5)=0. Normally, set to BCK8OUT=0 and leave it open.

2.6 Terminal for μPD64031A and μPD64032 digital connection

Acronyms	Terminal number	I/O	Level	Buffer type PU/PD [kΩ]	Functions
FCLK8	78	I/O	LVTTL 3-state	6 mA	Front stage burst lock clock input/output It will become Hi-Z when FCK8S[2:0] (SA21h, D6-D4)=000b. Normally, set to FCK8S[2:0]=0 and leave it open.
FCKQ	127	I/O	LVTTL 3-state	3 mA	Sampling clock output for μPD64031A and μPD64032 digital connection. It will become Hi-Z when FCKQS[2:0] (SA21h, D2-D0)=000b. Normally, set to FCKQS[2:0]=0 and leave it open.
FOCP	128	I/O	LVTTL 3-state	3 mA	Clamp pulse output for μPD64031A and μPD64032 digital connection/timing output (VD) for digital RGB input. It will become Hi-Z when FOCPS[2:0] (SA23h, D2-D0)=000b. Normally, set to FOCPS[2:0]=0 and leave it open.

2.7 Terminal for RGB input

Acronyms	Terminal number	I/O	Level	Buffer type PU/PD [kΩ]	Functions
DFBI	130	I	LVTTL	–	Fast Blanking signal input for analog RGB input.
DYSI	131	I	LVTTL	–	YS signal input for digital RGB input.
DYMI	134	I	LVTTL	–	YM signal input for digital RGB input.
DCGI	135	I	LVTTL	–	Digital RGB/G signal input
DCBI	136	I	LVTTL	–	Digital RGB/B signal input
DCRI	137	I	LVTTL	–	Digital RGB/R signal input
FCSI	129	I/O	LVTTL 3-state	3 mA	Sync separation signal input/timing output (HD) for RGB input. It will become Hi-Z when FCSIS[2:0] (SA22h, D2-D0)=000b. Normally, set to FCSIS[2:0]=0 and leave it open.

● **Pin Function**

2.8 ADC1 section terminal

Acronyms	Terminal number	I/O	Level	Buffer type PU/PD [kΩ]	Functions
AVI	148	I	Analog	–	ADC1 composite/Y signal input Input the image signal by cutting the capacity.
ASYI	150	I	Analog	–	ADC1 composite/Y signal input Input the image signal by cutting the capacity.
ACYI	152	I	Analog	–	ADC1 composite/Y signal input Input the image signal by cutting the capacity.
ACSI	154	I	Analog	–	ADC1 composite/Y signal input Input the image signal by cutting the capacity.
VCLY	146	O	Analog	–	ADC1 clamp electric potential Connect to GND via 0.1μF and 10μF capacitors.
VCOM1	147	I	Analog	–	ADC1 in-phase reference voltage Connect to GND via a 0.1μF capacitor.
VRB1	151	I	Analog	–	ADC1 bottom reference voltage Connect to GND via a 0.1μF capacitor.
VRT1	153	I	Analog	–	ADC1 top reference voltage Connect to GND via a 0.1μF capacitor.

2.9 ADC2 section terminal

Acronyms	Terminal number	I/O	Level	Buffer type PU/PD [kΩ]	Functions
ASCI	158	I	Analog	–	ADC2 separate C signal input Input the image signal by cutting the capacity.
AGI	160	I	Analog	–	ADC2 RGB component G signal input Input the image signal by cutting the capacity.
VRT2	157	I	Analog	–	ADC2 top reference voltage Connect to GND via a 0.1μF capacitor.
VRB2	159	I	Analog	–	ADC2 bottom reference voltage Connect to GND via a 0.1μF capacitor.
VCOM2	161	I	Analog	–	ADC2 in-phase reference voltage Connect to GND via a 0.1μF capacitor.

● **Pin Function**

2.10 ACD3 section terminal

Acronyms	Terminal number	I/O	Level	Buffer type PU/PD [kΩ]	Functions
ACBI	162	I	Analog	–	ADC3 color difference component Cb signal input Input the image signal by cutting the capacity.
ABI	164	I	Analog	–	ADC3 RGB component B signal input Input the image signal by cutting the capacity.
VRT3	163	I	Analog	–	ADC3 top reference voltage Connect to GND via a 0.1μF capacitor.
VRB3	165	I	Analog	–	ADC3 bottom reference voltage Connect to GND via a 0.1μF capacitor.
VCOM3	166	I	Analog	–	ADC3 in-phase reference voltage Connect to GND via a 0.1μF capacitor.

2.11 ACD4 section terminal

Acronyms	Terminal number	I/O	Level	Buffer type PU/PD [kΩ]	Functions
ACRI	170	I	Analog	–	ADC4 color difference component Cr signal input Input the image signal by cutting the capacity.
ARI	172	I	Analog	–	ADC3 RGB component R signal input Input the image signal by cutting the capacity.
VCOM4	169	I	Analog	–	ADC4 in-phase reference voltage Connect to GND via a 0.1μF capacitor.
VRB4	173	I	Analog	–	ADC4 bottom reference voltage Connect to GND via a 0.1μF capacitor.
VRT4	174	I	Analog	–	ADC4 top reference voltage Connect to GND via a 0.1μF capacitor.

2.12 DAC section terminal

Acronyms	Terminal number	I/O	Level	Buffer type PU/PD [kΩ]	Functions
IO-YG	62	O	Analog	–	Color difference component Y/RGB component G output signal. Connect to AGNDA via a 200Ω load resistance.
IO-CR	68	O	Analog	–	Color difference component Cr/RGB component R output signal. Connect to AGNDA via a 200Ω load resistance.
IO-CB	65	O	Analog	–	Color difference component Cb/RGB component B output signal. Connect to AGNDA via a 200Ω load resistance.
REF	59	I	Analog	–	External reference input pin. Supply 1.0V. And, connect to AGNDA via a 0.1μF capacitor.
RSET	60	O	Analog	–	Connect to AGNDA via a 620Ω resistor for external adjustment.

● **Pin Function**

2.13 Digital image input/output terminal

Acronyms	Terminal number	I/O	Level	Buffer type PU/PD [kΩ]	Functions
FDIO0-FDIO9	112,113,116, 117,118,119, 121,122,123, 124	I/O	LVTTL 3-state	6 mA	Digital 8/10 bit Cb, Cr output/input at the time of μPD64031A digital connection. It will become Hi-Z when FDIOS[2:0] (SA22h, D6-D4)=000b. Leave it open when not in use.
ROCK	101	O	LVTTL 3-state	6 mA	Clock for digital ITU-R BT.656/component output.
ROY0-ROY13	100,99,97,96, 95,94,91,90, 87,86,85,84, 83,82	O	LVTTL 3-state	6 mA	Digital ITU-R BT.656/component output. Digital RGB component (8 bit) output
ROFDIE	79	I	LVTTL	–	Image input/output terminal output enable. The state of ROY[13:0], ROCK, HD, VD, VBLK, FILD and RDEO terminals is controlled. L: Output terminal Hi-Z, H: Output enable Normally, pull up to 3.3V.

2.14 timing output terminal

Acronyms	Terminal number	I/O	Level	Buffer type PU/PD [kΩ]	Functions
HD	105	O	LVTTL 3-state	3 mA	Horizontal sync signal output
VD	106	O	LVTTL 3-state	3 mA	Vertical sync signal output
VBLK	107	O	LVTTL 3-state	3 mA	V blanking output
FILD	108	O	LVTTL 3-state	3 mA	Field output
RDEO	110	O	LVTTL 3-state	3 mA	Effective pixel range output

● **Pin Function**

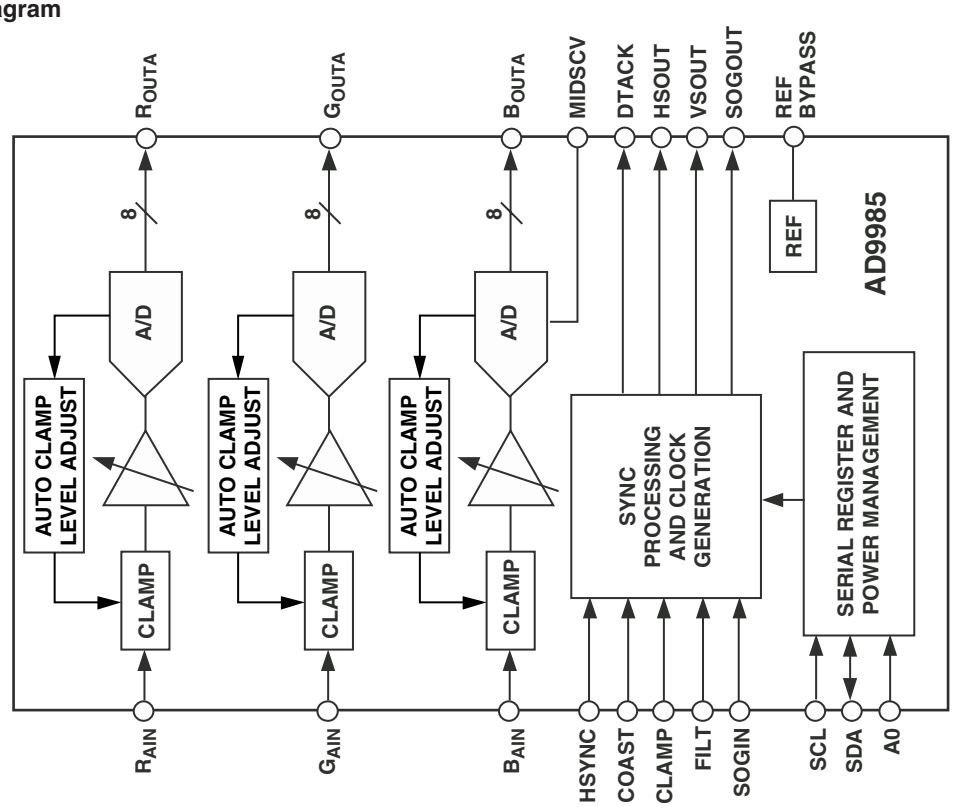
2.15 Memory interface terminal

Acronyms	Terminal number	I/O	Level	Buffer type PU/PD [kΩ]	Functions
SDRABP	4	O	LVTTL 3-state	3 mA	All bank pre-charge output for external memory (Active-High)
SDRCLK	25	O	LVTTL 3-state	9 mA	Clock output for external memory
SDRCKE	21	O	LVTTL 3-state	3 mA	Clock enable output for external memory (Active-High)
SDRCS	20	O	LVTTL 3-state	3 mA	Chip select output for external memory (Active-Low)
SDRCAS	28	O	LVTTL 3-state	3 mA	Column address strobe output for external memory (Active-Low)
SDRRAS	22	O	LVTTL 3-state	3 mA	Low address strobe output for external memory (Active-Low)
SDRWE	29	O	LVTTL 3-state	3 mA	Write enable output for external memory (Active-Low)
SDRA0 -SDRA11	19,18,15,14, 13,12,10,9,8, 7,6,5	O	LVTTL 3-state	3 mA	Address output for external memory Insert a damping resistor of approximately 100Ω, and connect to the SDRAM address terminal.
SDRDQ0 -SDRDQ15	51,49,46,42, 40,36,34,30, 31,35,37,41, 43,47,50,52	I/O	LVTTL 3-state	6 mA	Data input/output for external memory.

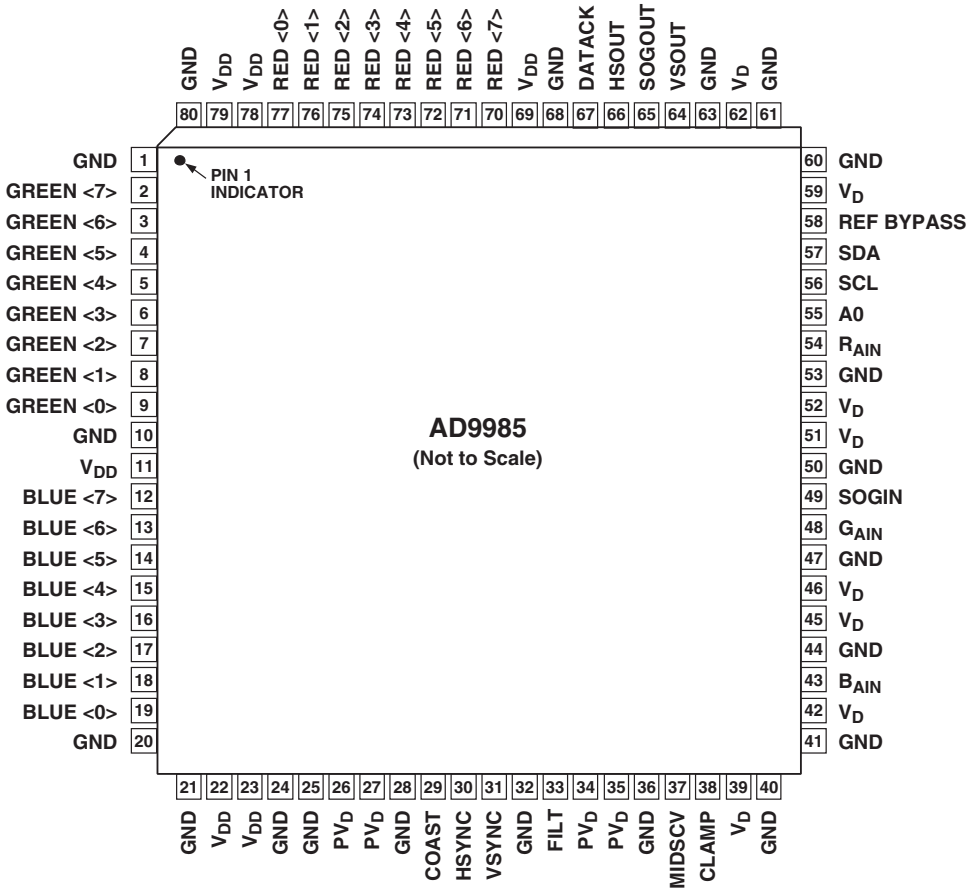
■ AD9985KSTZ-110 (MAIN ASSY : IC5301)

• ADC

● Block Diagram



● Pin Arrangement (Top View)



● **Pin Function**

Pin Type	Mnemonic	Function	Value	Pin No.
Inputs	R_{AIN}	Analog Input for Converter R	0.0 V to 1.0V	54
	G_{AIN}	Analog Input for Converter G	0.0 V to 1.0V	48
	B_{AIN}	Analog Input for Converter B	0.0 V to 1.0V	43
	HSYNC	Horizontal SYNC Input	3.3 V CMOS	30
	VSYNC	Vertical SYNC Input	3.3 V CMOS	31
	SOGIN	Input for Sync-on-Green	0.0 V to 1.0 V	49
	CLAMP	Clamp Input (External CLAMP Signal)	3.3 V CMOS	38
	COAST	PLL COAST Signal Input	3.3 V CMOS	29
Outputs	Red [7:0]	Outputs of Converter Red, Bit 7 is the MSB	3.3 V CMOS	70–77
	Green [7:0]	Outputs of Converter Green, Bit 7 is the BSB	3.3 V CMOS	2–9
	Blue [7:0]	Outputs of Converter Blue, Bit 7 is the BSB	3.3 V CMOS	12–19
	DATACK	Data Output Clock	3.3 V CMOS	67
	HSOUT	HSYNC Output (Phase-Aligned with DATACK)	3.3 V CMOS	66
	VSOUT	VSYNC Output (Phase-Aligned with DATACK)	3.3 V CMOS	64
	SOGOUT	Sync-on-Green Slicer Output	3.3 V CMOS	65
References	REF BYPASS	Internal Reference Bypass	1.25 V	58
	MIDSCV	Internal Midscale Voltage Bypass		37
	FILT	Connection for External Filter Components for Internal PLL		33
Power Supply	V_D	Analog Power Supply	3.3 V	39, 42, 45, 46, 51, 52, 59, 62
	V_{DD}	Output Power Supply	3.3 V	11, 22, 23, 69, 78, 79
	PV_D	PLL Power Supply	3.3 V	26, 27, 34, 35
	GND	Ground	0 V	1, 10, 20, 21, 24, 25, 28, 32, 36, 40, 41, 44, 47, 50, 53, 60, 61, 63, 68, 80
Control	SDA	Serial Port Data I/O	3.3 V CMOS	57
	SCL	Serial Port Data Clock (100 kHz Maximum)	3.3 V CMOS	56
	A0	Serial Port Address Input 1	3.3 V CMOS	55

● Pin Function

Pin Name	Function
OUTPUTS	
HSOUT	Horizontal Sync Output A reconstructed and phase-aligned version of the Hsync input. Both the polarity and duration of this output can be programmed via serial bus registers. By maintaining alignment with DATACK and Data, data timing with respect to horizontal sync can always be determined.
VSOUT	Vertical Sync Output A reconstructed and phase-aligned version of the video Vsync. The polarity of this output can be controlled via a serial bus bit. The placement and duration in all modes is set by the graphics transmitter.
SOGOUT	Sync-On-Green Slicer Output This pin outputs either the signal from the Sync-on-Green slicer comparator or an unprocessed but delayed version of the Hsync input. See the Sync Processing Block Diagram to view how this pin is connected. (Note: Besides slicing off SOG, the output from this pin gets no other additional processing on the AD9985. Vsync separation is performed via the sync separator.)
SERIAL PORT (2-Wire)	
SDA	Serial Port Data I/O
SCL	Serial Port Data Clock
A0	Serial Port Address Input 1 For a full description of the 2-wire serial register and how it works, refer to the 2-wire serial control port section.
DATA OUTPUTS	
RED	Data Output, Red Channel
GREEN	Data Output, Green Channel
BLUE	Data Output, Blue Channel The main data outputs. Bit 7 is the MSB. The delay from pixel sampling time to output is fixed. When the sampling time is changed by adjusting the PHASE register, the output timing is shifted as well. The DATACK and HSOUT outputs are also moved, so the timing relationship among the signals is maintained. For exact timing information.
DATA CLOCK OUTPUT	
DATACK	Data Output Clock The main clock output signal used to strobe the output data and HSOUT into external logic. It is produced by the internal clock generator and is synchronous with the internal pixel sampling clock. When the sampling time is changed by adjusting the PHASE register, the output timing is shifted as well. The Data, DATACK, and HSOUT outputs are all moved, so the timing relationship among the signals is maintained.
INPUTS	
R_{AIN}	Analog Input for Red Channel
G_{AIN}	Analog Input for Green Channel
B_{AIN}	Analog Input for Blue Channel High impedance inputs that accept the Red, Green, and Blue channel graphics signals, respectively. (The three channels are identical, and can be used for any colors, but colors are assigned for convenient reference.) They accommodate input signals ranging from 0.5 V to 1.0 V full scale. Signals should be ac-coupled to these pins to support clamp operation.
HSYNC	Horizontal Sync Input This input receives a logic signal that establishes the horizontal timing reference and provides the frequency reference for pixel clock generation. The logic sense of this pin is controlled by serial Register 0EH Bit 6 (Hsync Polarity). Only the leading edge of Hsync is active; the trailing edge is ignored. When Hsync Polarity = 0, the falling edge of Hsync is used. When Hsync Polarity = 1, the rising edge is active. The input includes a Schmitt trigger for noise immunity, with a nominal input threshold of 1.5 V.
VSYNC	Vertical Sync Input The input for vertical sync.

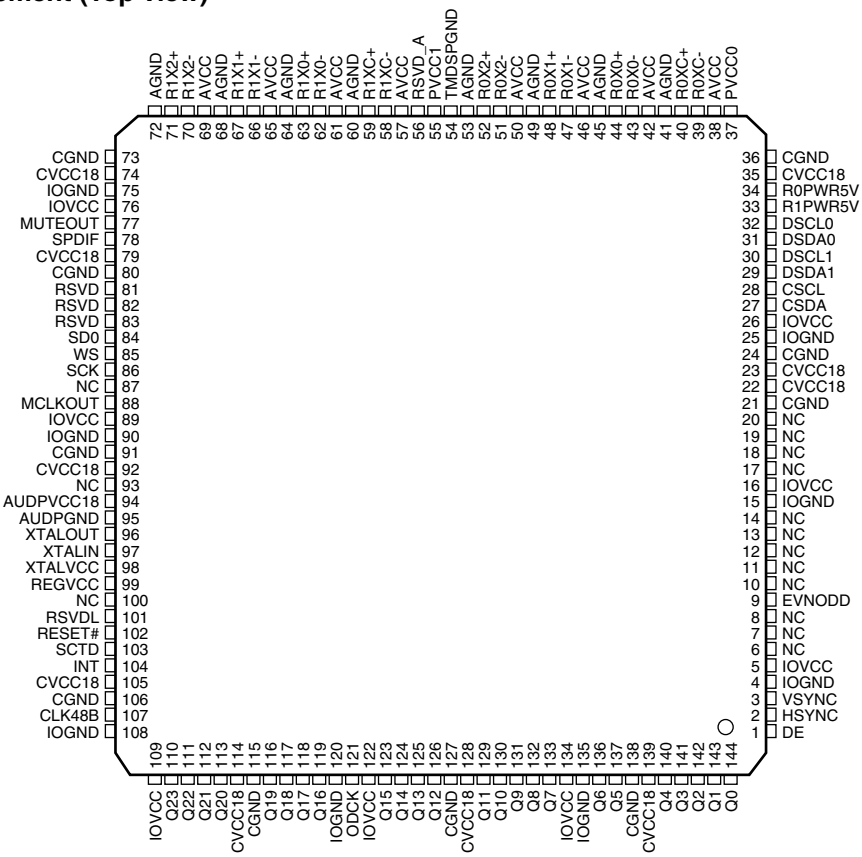
● **Pin Function**

Pin Name	Function
SOGIN	Sync-on-Green Input This input is provided to assist with processing signals with embedded sync, typically on the Green channel. The pin is connected to a high speed comparator with an internally generated threshold. The threshold level can be programmed in 10 mV steps to any voltage between 10 mV and 330 mV above the negative peak of the input signal. The default voltage threshold is 150 mV. When connected to an ac-coupled graphics signal with embedded sync, it will produce a noninverting digital output on SOGOUT. (This is usually a composite sync signal, containing both vertical and horizontal sync information that must be separated before passing the horizontal sync signal to Hsync.) When not used, this input should be left unconnected. For more details on this function and how it should be configured, refer to the Sync-on-Green section.
CLAMP	External Clamp Input This logic input may be used to define the time during which the input signal is clamped to ground. It should be exercised when the reference dc level is known to be present on the analog input channels, typically during the back porch of the graphics signal. The CLAMP pin is enabled by setting control bit Clamp Function to 1 (Register 0FH, Bit 7, default is 0). When disabled, this pin is ignored and the clamp timing is determined internally by counting a delay and duration from the trailing edge of the Hsync input. The logic sense of this pin is controlled by Clamp Polarity Register 0FH, Bit 6. When not used, this pin must be grounded and Clamp Function programmed to 0.
COAST	Clock Generator Coast Input (Optional) This input may be used to cause the pixel clock generator to stop synchronizing with Hsync and continue producing a clock at its current frequency and phase. This is useful when processing signals from sources that fail to produce horizontal sync pulses during the vertical interval. The COAST signal is generally not required for PC-generated signals. The logic sense of this pin is controlled by Coast Polarity (Register 0FH, Bit 3). When not used, this pin may be grounded and Coast Polarity programmed to 1, or tied HIGH (to V_D through a 10 k resistor) and Coast Polarity programmed to 0. Coast Polarity defaults to 1 at power-up.
REF BYPASS	Internal Reference BYPASS Bypass for the internal 1.25 V band gap reference. It should be connected to ground through a 0.1 μF capacitor. The absolute accuracy of this reference is ±4%, and the temperature coefficient is ±50 ppm, which is adequate for most AD9985 applications. If higher accuracy is required, an external reference may be employed instead.
MIDSCV	Midscale Voltage Reference BYPASS Bypass for the internal midscale voltage reference. It should be connected to ground through a 0.1 μF capacitor. The exact voltage varies with the gain setting of the Blue channel.
FILT	External Filter Connection For proper operation, the pixel clock generator PLL requires an external filter. Connect the filter shown in Figure to this pin. For optimal performance, minimize noise and parasitics on this node.
POWER SUPPLY	
V_D	Main Power Supply These pins supply power to the main elements of the circuit. They should be filtered and as quiet as possible.
V_{DD}	Digital Output Power Supply A large number of output pins (up to 25) switching at high speed (up to 110 MHz) generates a lot of power supply transients (noise). These supply pins are identified separately from the V_D pins so special care can be taken to minimize output noise transferred into the sensitive analog circuitry. If the AD9985 is interfacing with lower voltage logic, V_{DD} may be connected to a lower supply voltage (as low as 2.5 V) for compatibility.
PV_D	Clock Generator Power Supply The most sensitive portion of the AD9985 is the clock generation circuitry. These pins provide power to the clock PLL and help the user design for optimal performance. The designer should provide quiet, noise-free power to these pins.
GND	Ground The ground return for all circuitry on-chip. It is recommended that the AD9985 be assembled on a single solid ground plane, with careful attention given to ground current paths.

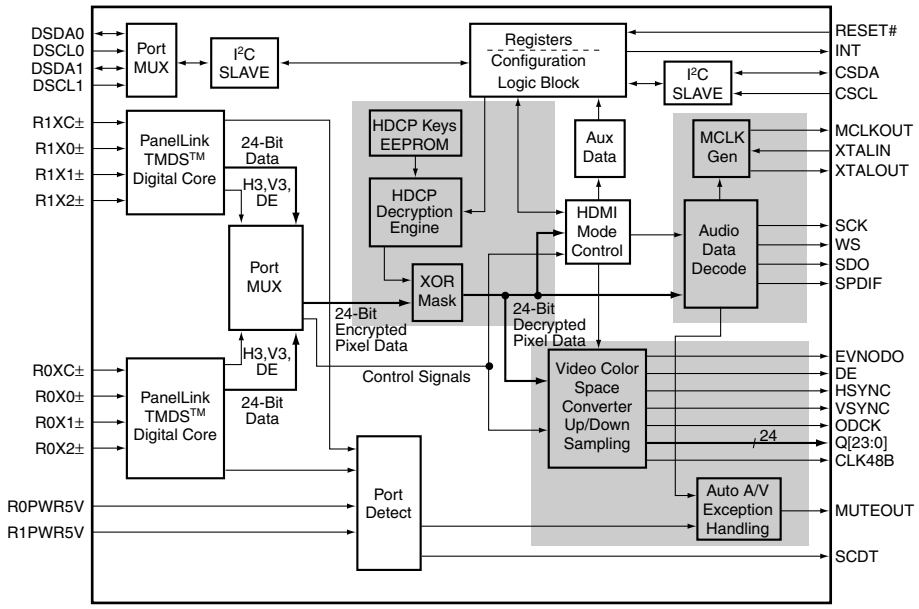
Sil9023CTU (MAIN ASSY: IC5401)

• HDMI Rx

● Pin Arrangement (Top view)



● Block Diagram



● Pin Function

No.	Pin Name	I/O	Pin Function
1	DE	O	Data enable
2	HSYNC	O	H. sync. output control
3	VSYNC	O	V. sync. output control
4	IOGND	–	I/O GND
5	IOVCC	–	I/O VCC
6	NC	–	Non connection
7	NC	–	Non connection
8	NC	–	Non connection
9	EVNODD	O	EVEN/ODD field indicator
10	NC	–	Non connection
11	NC	–	Non connection
12	NC	–	Non connection
13	NC	–	Non connection
14	NC	–	Non connection
15	IOGND	–	I/O GND
16	IOVCC	–	I/O VCC
17	NC	–	Non connection
18	NC	–	Non connection
19	NC	–	Non connection
20	NC	–	Non connection
21	CGND	–	Digital logic GND
22	CVCC18	–	Digital logic VCC (1.8 V)
23	CVCC18	–	Digital logic VCC (1.8 V)
24	CGND	–	Digital logic GND
25	IOGND	–	I/O GND
26	IOVCC	–	I/O VCC
27	CSDA	I/O	Configuration I2C data
28	CSCL	I	Configuration I2C clock
29	DSDA1	I/O	DDC I2C data for port 1
30	DSCL1	I	DDC I2C clock for port 1
31	DSDA0	I/O	DDC I2C data for port 0
32	DSCL0	I	DDC I2C clock for port 0
33	R1PWR5V	I	Port 1 transfer detection
34	R0PWR5V	I	Port 0 transfer detection
35	CVCC18	–	Digital logic VCC (1.8 V)
36	CGND	–	Digital logic GND
37	PVCC0	–	TMDS port 0 PLL VCC
38	AVCC	–	TMDS analog VCC
39	R0XC-	I	TMDS input clock
40	R0XC+	I	TMDS input clock
41	AGND	–	TMDS analog GND
42	AVCC	–	TMDS analog VCC
43	R0X0-	I	TMDS input data
44	R0X0+	I	TMDS input data
45	AGND	–	TMDS analog GND
46	AVCC	–	TMDS analog VCC
47	R0X1-	I	TMDS input data
48	R0X1+	I	TMDS input data
49	AGND	–	TMDS analog GND
50	AVCC	–	TMDS analog VCC

● **Pin Function**

No.	Pin Name	I/O	Pin Function
51	R0X2-	I	TMDS input data
52	R0X2+	I	TMDS input data
53	AGND	–	TMDS analog GND
54	TMDSPGND	–	TMDS PLL GND
55	PVCC1	–	TMDS port 1 PLL VCC
56	RSVD_A	–	Reserved
57	AVCC	–	TMDS analog VCC
58	R1XC-	I	TMDS input clock
59	R1XC+	I	TMDS input clock
60	AGND	–	TMDS analog GND
61	AVCC	–	TMDS analog VCC
62	R1X0-	I	TMDS input data
63	R1X0+	I	TMDS input data
64	AGND	–	TMDS analog GND
65	AVCC	–	TMDS analog VCC
66	R1X1-	I	TMDS input data
67	R1X1+	I	TMDS input data
68	AGND	–	TMDS analog GND
69	AVCC	–	TMDS analog VCC
70	R1X2-	I	TMDS input data
71	R1X2+	I	TMDS input data
72	AGND	–	TMDS analog GND
73	CGND	–	Digital logic GND
74	CVCC18	–	Digital logic VCC (1.8 V)
75	IOGND	–	I/O GND
76	IOVCC	–	I/O VCC
77	MUTEOUT	O	Audio output mute
78	SPDIF	O	S/PDIF audio output
79	CVCC18	–	Digital logic VCC (1.8 V)
80	CGND	–	Digital logic GND
81	RSVD	O	–
82	RSVD	O	–
83	RSVD	O	–
84	SD0	O	I2C serial data output
85	WS	O	I2C word select output
86	SCK	O	I2C serial clock output
87	NC	–	Non connection
88	MCLKOUT	O	Audio master clock output
89	IOVCC	–	I/O VCC
90	IOGND	–	I/O GND
91	CGND	–	Digital logic GND
92	CVCC18	–	Digital logic VCC (1.8 V)
93	NC	–	Non connection
94	AUDPVCC18	–	ACR PLL VCC
95	AUDPGND	–	ACR PLL GND
96	XTALOUT	O	Crystal clock output
97	XTALIN	I	Crystal clock input
98	XTALVCC	–	ACR PLL crystal input VCC
99	REGVCC	–	ACR PLL regulator VCC
100	NC	–	Non connection

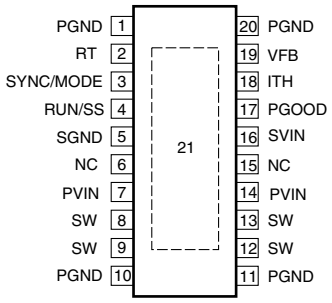
● Pin Function

No.	Pin Name	I/O	Pin Function
101	RSVDL	I	Reserved, Low fixing
102	RESET#	I	Reset, active Low
103	SCTD	O	Display active video with the HDMI input port
104	INT	O	Interruption output
105	CVCC18	–	Digital logic VCC (1.8 V)
106	CGND	–	Digital logic GND
107	CLK48B	I/O	Data bus latch enable
108	IOGND	–	I/O GND
109	IOVCC	–	I/O VCC
110	Q23	O	24-bit output, pixel data bus
111	Q22	O	24-bit output, pixel data bus
112	Q21	O	24-bit output, pixel data bus
113	Q20	O	24-bit output, pixel data bus
114	CVCC18	–	Digital logic VCC (1.8 V)
115	CGND	–	Digital logic GND
116	Q19	O	24-bit output, pixel data bus
117	Q18	O	24-bit output, pixel data bus
118	Q17	O	24-bit output, pixel data bus
119	Q16	O	24-bit output, pixel data bus
120	IOGND	–	I/O GND
121	ODCK	O	Output data clock
122	IOVCC	–	I/O VCC
123	Q15	O	24-bit output, pixel data bus
124	Q14	O	24-bit output, pixel data bus
125	Q13	O	24-bit output, pixel data bus
126	Q12	O	24-bit output, pixel data bus
127	CGND	–	Digital logic GND
128	CVCC18	–	Digital logic VCC (1.8 V)
129	Q11	O	24-bit output, pixel data bus
130	Q10	O	24-bit output, pixel data bus
131	Q9	O	24-bit output, pixel data bus
132	Q8	O	24-bit output, pixel data bus
133	Q7	O	24-bit output, pixel data bus
134	IOVCC	–	I/O VCC
135	IOGND	–	I/O GND
136	Q6	O	24-bit output, pixel data bus
137	Q5	O	24-bit output, pixel data bus
138	CGND	–	Digital logic GND
139	CVCC18	–	Digital logic VCC (1.8 V)
140	Q4	O	24-bit output, pixel data bus
141	Q3	O	24-bit output, pixel data bus
142	Q2	O	24-bit output, pixel data bus
143	Q1	O	24-bit output, pixel data bus
144	Q0	O	24-bit output, pixel data bus

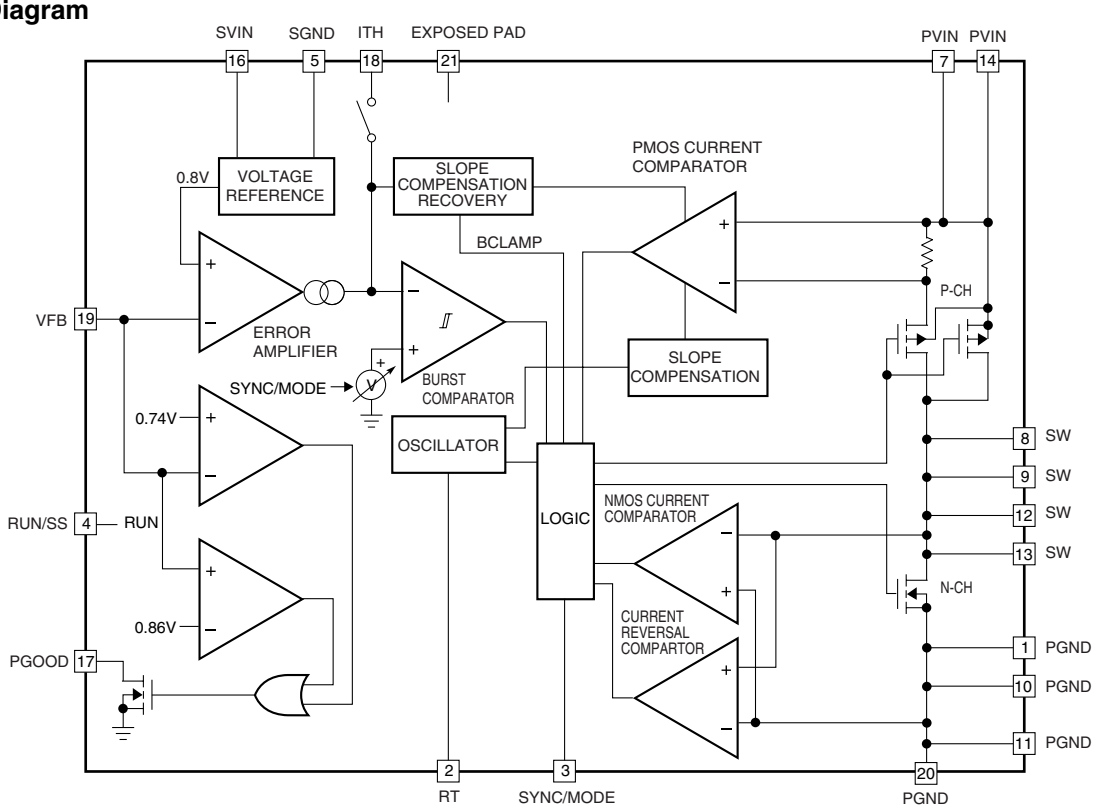
LTC3414EFE (MAIN ASSY: IC4102)

• Regulator IC

● Pin Arrangement (Top view)



● Block Diagram



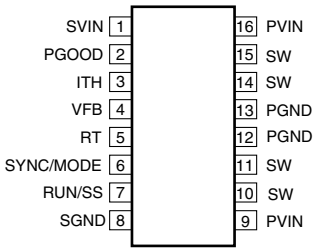
● Pin Function

No.	Pin Name	I/O	Pin Function	No.	Pin Name	I/O	Pin Function
1	PGND	–	Power Ground.	12	SW	–	Switch Node Connection to Inductor.
2	RT	I	Oscillator Resistor Input.	13	SW	–	Switch Node Connection to Inductor.
3	SYNC/MODE	I	Mode Select and External Clock Synchronization Input.	14	PVIN	–	Power Input Supply.
4	RUN/SS	I	Run Control and Soft-Start Input.	15	NC	–	Open. No internal connection.
5	SGND	–	Signal Ground.	16	SVIN	I	Signal Input Supply.
6	NC	–	Open. No internal connection.	17	PGOOD	O	Power Good Output.
7	PVIN	–	Power Input Supply	18	ITH	–	Error Amplifier Compensation Point.
8	SW	–	Switch Node Connection to Inductor.	19	VFB	I	Feedback Pin.
9	SW	–	Switch Node Connection to Inductor.	20	PGND	–	Power Ground.
10	PGND	–	Power Ground.	21	Exposed Pad	–	Should be connected to SGND and soldered to the PCB.
11	PGND	–	Power Ground.				

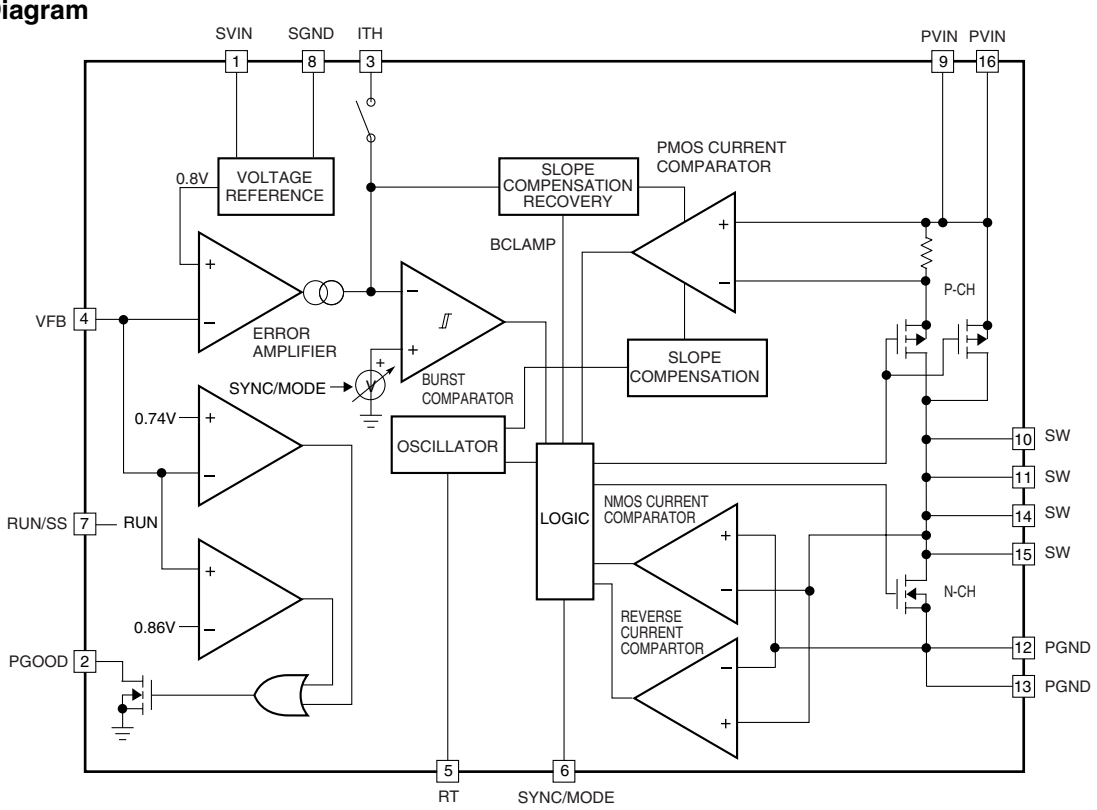
■ LTC3412EFE (MAIN ASSY: IC4103)

• Regulator IC

● Pin Arrangement (Top view)



● Block Diagram



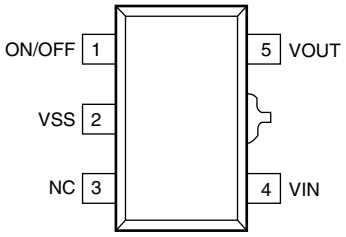
● Pin Function

No.	Pin Name	I/O	Pin Function	No.	Pin Name	I/O	Pin Function
1	SVIN	I	Signal Input Supply.	9	PVIN	I	Power Input Supply
2	PGOOD	O	Power Good Output.	10	SW	–	Switch Node Connection to the Inductor.
3	ITH	–	Error Amplifier Compensation Point.	11	SW	–	Switch Node Connection to the Inductor.
4	VFB	I	Feedback Pin.	12	PGND	–	Power Ground
5	RT	I	Oscillator Resistor Input.	13	PGND	–	Power Ground
6	SYNC/MODE	I	Mode Select and External Clock Synchronization Input.	14	SW:	–	Switch Node Connection to the Inductor.
7	RUN/SS	I	Run Control and Soft-Start Input.	15	SW	–	Switch Node Connection to the Inductor.
8	SGND	–	Signal Ground.	16	PVIN	I	Power Input Supply

S1170B25UC-OTA (MAIN ASSY : IC4105)
S1170B15UC-OTA (MAIN ASSY : IC4106)

• Regulator IC

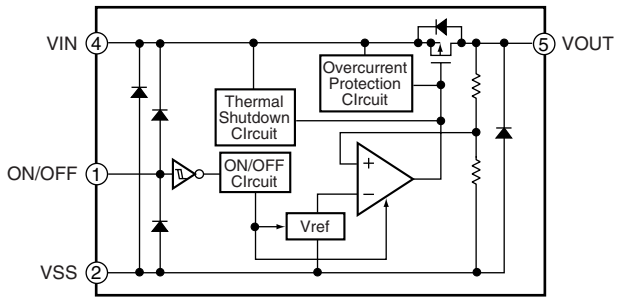
● Pin Arrangement (Top view)



● Pin Function

No.	Pin Name	I/O	Pin Function
1	ON/OFF	I	Power OFF pin
2	VSS	–	Ground
3	NC	–	Non connection
4	VIN	I	Voltage input
5	VOUT	O	Voltage output

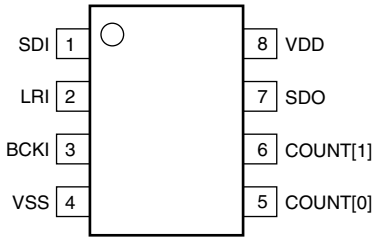
● Block Diagram



NJU26901E2 (MAIN ASSY : IC4704)

• Audio Delay IC

● Pin Arrangement (Top view)



● Pin Function

No.	Pin Name	I/O	Pin Function
1	SDI	I	Serial audio data input
2	LRI	I	LR clock input
3	BCKI	I	Serial clock input
4	VSS	–	Ground
5	COUNT[0]	I	Delay time setting 0
6	COUNT[1]	I	Delay time setting 1
7	SDO	O	Serial audio data output
8	VDD	–	Power supply (+2.5V)

● Block Diagram